THE ARCHITECTURAL RECORD

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★Concrete Commits Suicide!

(Effects of Alternate Wetting and Drying)

IN the nature of concrete, there is a very evident disposition to destroy itself because concrete is disposed to expand when it becomes wet and to contract as it dries out. No matter how well concrete has set, whenever moisture enters it there is still some chemical action between the cement and water which increases the concrete's volume. If there is no room to expand, it will naturally disrupt.

The small cracks or fissures that you have seen on the surface of concrete are the external signs of such disruption—and these, naturally, invite the further inroads of moisture. Protection in the first place is a positive necessity.

There is no guess work whatever about any of the facts in regard to concrete. It is a reliable building material if it is protected against water. If you had built a concrete wall and you went out and found a man with a sledge hammer about to break it up, you would do something about it. Yet, if you had built that wall without integral waterproofing you would have to stand by and watch it destroy itself because you could not interfere.

You would not let other people destroy your property—neither should you let natural forces destroy it. Whenever you use concrete protect it permanently with Truscon Waterproofing Paste Concentrated.

When you build with Truscon Waterproofing Paste Concentrated you build the elements of protection into concrete, making it permanently safe against alternate wetting and drying. The disruptive forces of constant contraction and expansion are prevented because water can not enter concrete so protected. You can not take a simpler precaution nor one that, considering result, costs you less than the use of Truscon Waterproofing Paste Concentrated. This material is simple to use and is the only permanent method of protecting structural concrete against the destructive action of water.

★ *This is No. 10 of a series of non-technical explanations prepared by R. A. Plumb, General Director of The Truscon Laboratories, on the necessity for integrally waterproofing all concrete used in building.*

R. A. Plumb

General Director of
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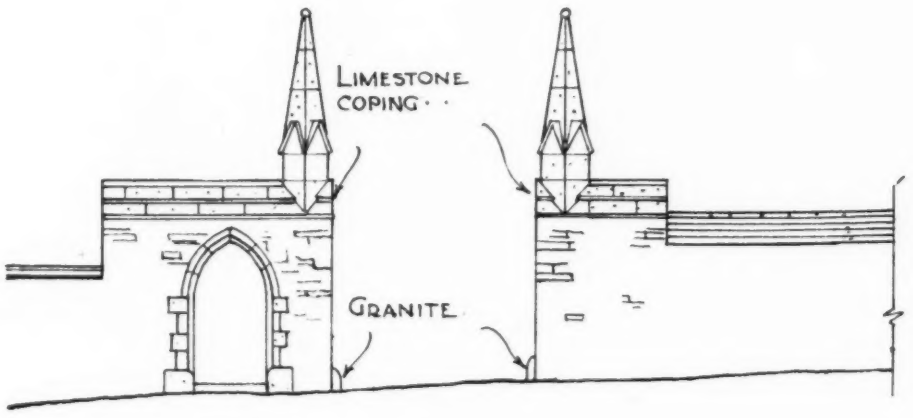
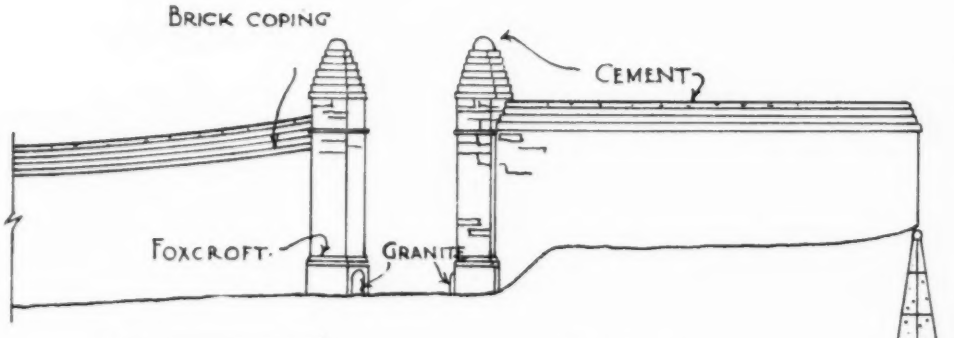
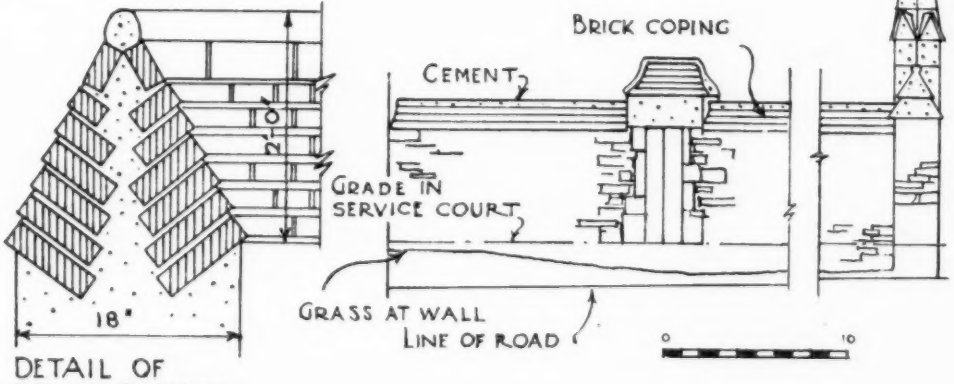
WALL DETAILS

GOODHART HALL
BRYN MAWR COLLEGE
PENNSYLVANIA







DETAIL OF BRICK COPING

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GATE TO SERVICE COURT

GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA

MELLOR & MEIGS, ARCHITECTS

THE ARCHITECTURAL RECORD

AN ILLUSTRATED MONTHLY MAGAZINE OF
ARCHITECTURE & THE ALLIED
ARTS & CRAFTS

VOLUME 65 FEBRUARY·1929 NUMBER 2

GOODHART HALL

ITS DESIGN AND MATERIALS

MELLOR & MEIGS, ARCHITECTS

DESCRIPTION BY ARTHUR I. MEIGS

All buildings have a function to fulfill but Architecture is the aesthetic fulfillment of that function. Yet, functions vary as the poles asunder, as, for example, a church spire differs from a chimney stack, and while we may apply an unlimited amount of architectural ornament to the chimney stack, yet we cannot make it the same as the church spire.

Architecture, like Sculpture, must be modeled and arranged until it achieves *shape*.

As a church spire is to a chimney stack, so may we consider collegiate architecture to commercial architecture—with which we are all too familiar. If the former fails to be aesthetic, if it fails to have shape, harmony, and inspiration, it fails to be architecture.

In this building, the principal element is the Great Hall, which dominates the scheme within and without. Around and against this the other elements are arranged: the Foyer to the south, the Students' Wing to the north, the Stage Entrance to the east, and to the west, the Music Wing, pushing against the main mass from below and holding it from slipping from its position. These lesser architectural elements buttress the main architectural element, precisely as the stone buttresses on the outside brace the great flying arches which are within, and these in turn support the roof with its stone flèche which dominates all. So it builds up from the ground to its pinnacle and accent.

A stone flèche held aloft in the air grips the imagination more than one made of a lighter material, because, consciously or unconsciously, the mind and the senses seek for its support. And the support is there, namely, the double stone arch in the center of the interior. So we find that the whole building works towards the support of its highest point.

Nothing is more stirring in architecture than its silent stresses and strains. And when we walk along the Music Walk on the west side of the building we are passing through them, and when we enter, we are sitting under them.

The four flying arches in the interior, the doubled flying arch in its center, and the stone flèche, high above all, constitute the architectural heartbeats of the whole.

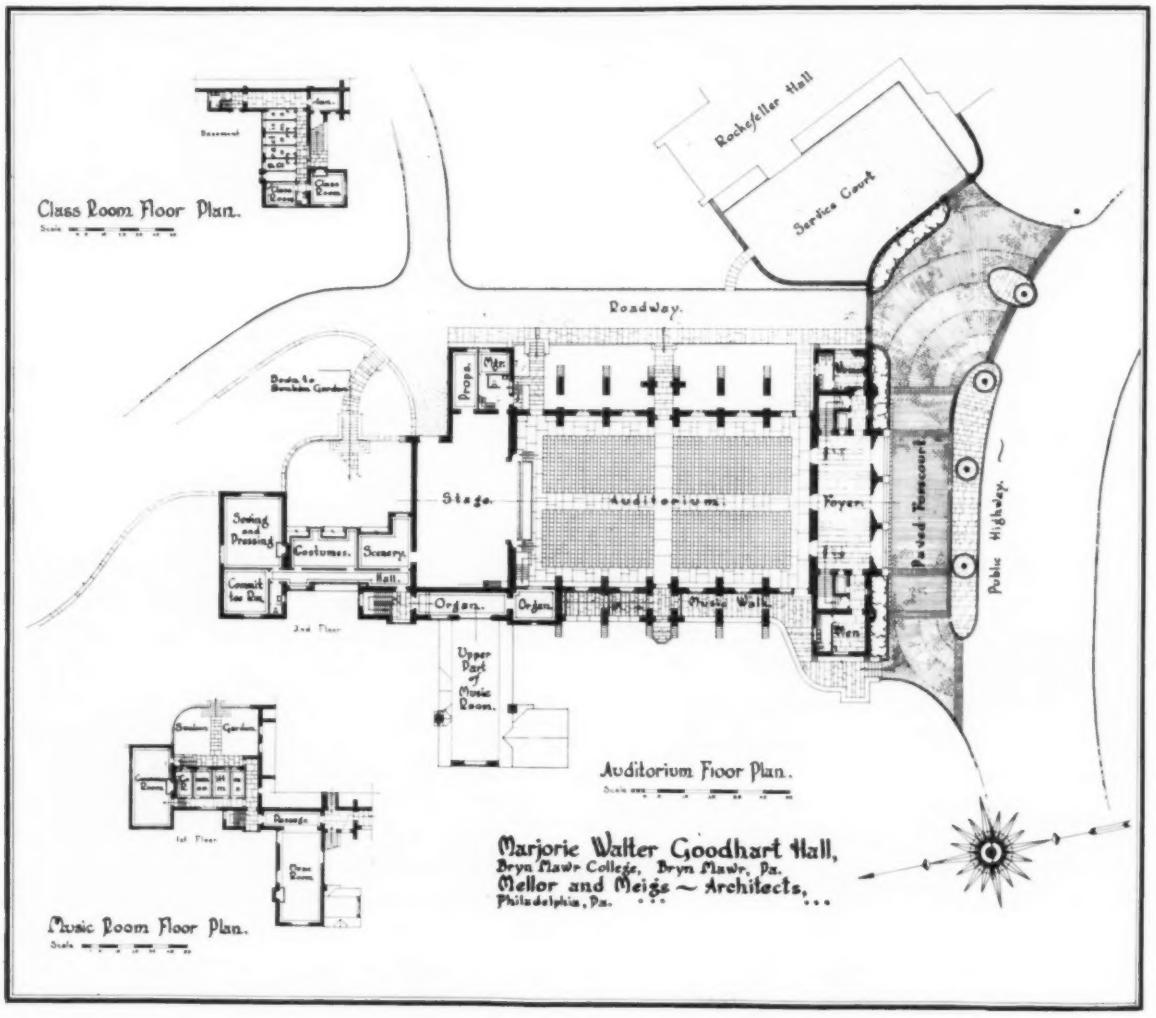
The above was written after the signing of the contract and before the turning of the first sod; and a friendly architect made the friendly comment that perhaps the written word might prove to be the best thing about the whole building.

There were two main sources of inspiration: one, the Ponte del Diavolo in Italy, and the other, a barn in France. The Ponte del Diavolo is a triple arched medieval bridge spanning a torrent stream, with its main arch flying high above the water and supporting a nine foot roadway, ascending and descending a steep incline from the banks to the crown of the arch, which is so thin that it looks as if it might break but doesn't. The barn is the typical shape with the low walls and the great roof.

Everything else flowed along in the wake of these two main ideas, and, in order to give them emphasis, the bourn was set to strip the building of detail as far as it was possible and to use only the simplest and sturdiest of materials.

Stone, Iron, Wood.

Goodhart Hall is built almost entirely of these three and their relatives. The ashlar itself is what is commonly known as Chestnut Hill stone, except that it comes from the Foxcroft quarry three miles from



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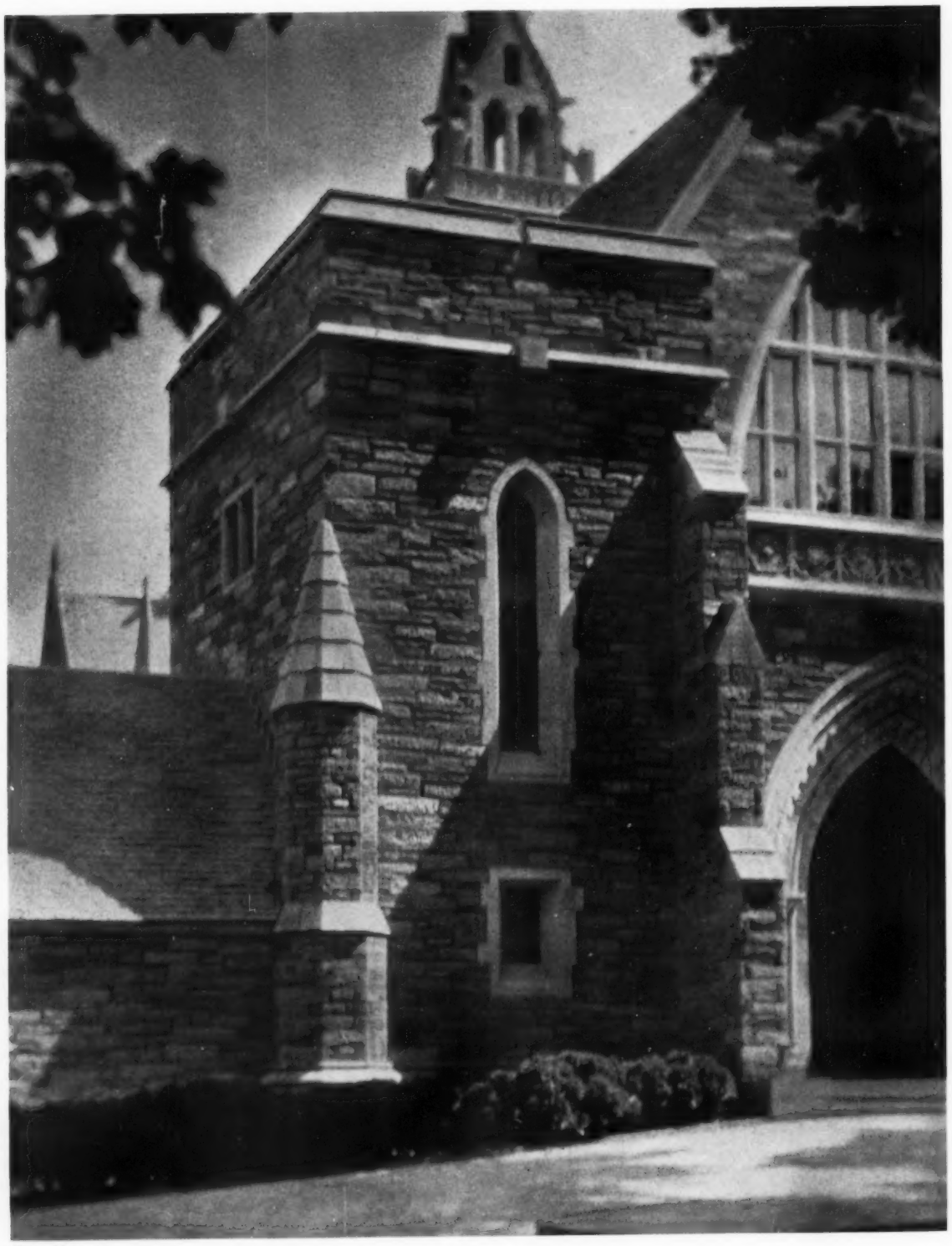
VIEW FROM THE SOUTH EAST
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS

Bryn Mawr and fifteen from Chestnut Hill. The environs of Philadelphia are rich in this material and the veins extend a long way. Limestone trimmings, a slate roof, flagstone walks and floors in abundance, and a Belgian block pavement spread like a stone carpet in front. Inside, more flagstone floors, concrete and mason dashing; all of the stone family. Almost all the interior walls are covered with mason dashing, which is no more than cement plaster applied by the mason with a trowel, and of its own natural color, namely a yellowish gray, produced by the cement and the bright yellow Jersey gravel. Everything enumerated above except the slate is put on or laid up by the mason.

Pink granite Belgian blocks greet us on our arrival, and so modest and retiring are they that we might forget to notice that we are stepping on them, but were they absent, we should miss their color and texture. Unobtrusively, they tell the motorist which way to go, and they play a part practically and aesthetically as important as do the foundations structurally.

Next comes the concrete, a mixture of stone and iron concealed. These arches are not really arches, but in truth, curved concrete beams in the shape of an arch. They thrust at the bottom, but if it were not for the thousands of pounds of reinforcing iron in their cores they would break up through the roof at their thinnest point. One main thing about the surface, and that is, that it had to remain untouched after the removal of the forms, bubble holes, honeycombs and all. This being assumed in the beginning, the forms were of dressed



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WEST STAIR TOWER
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
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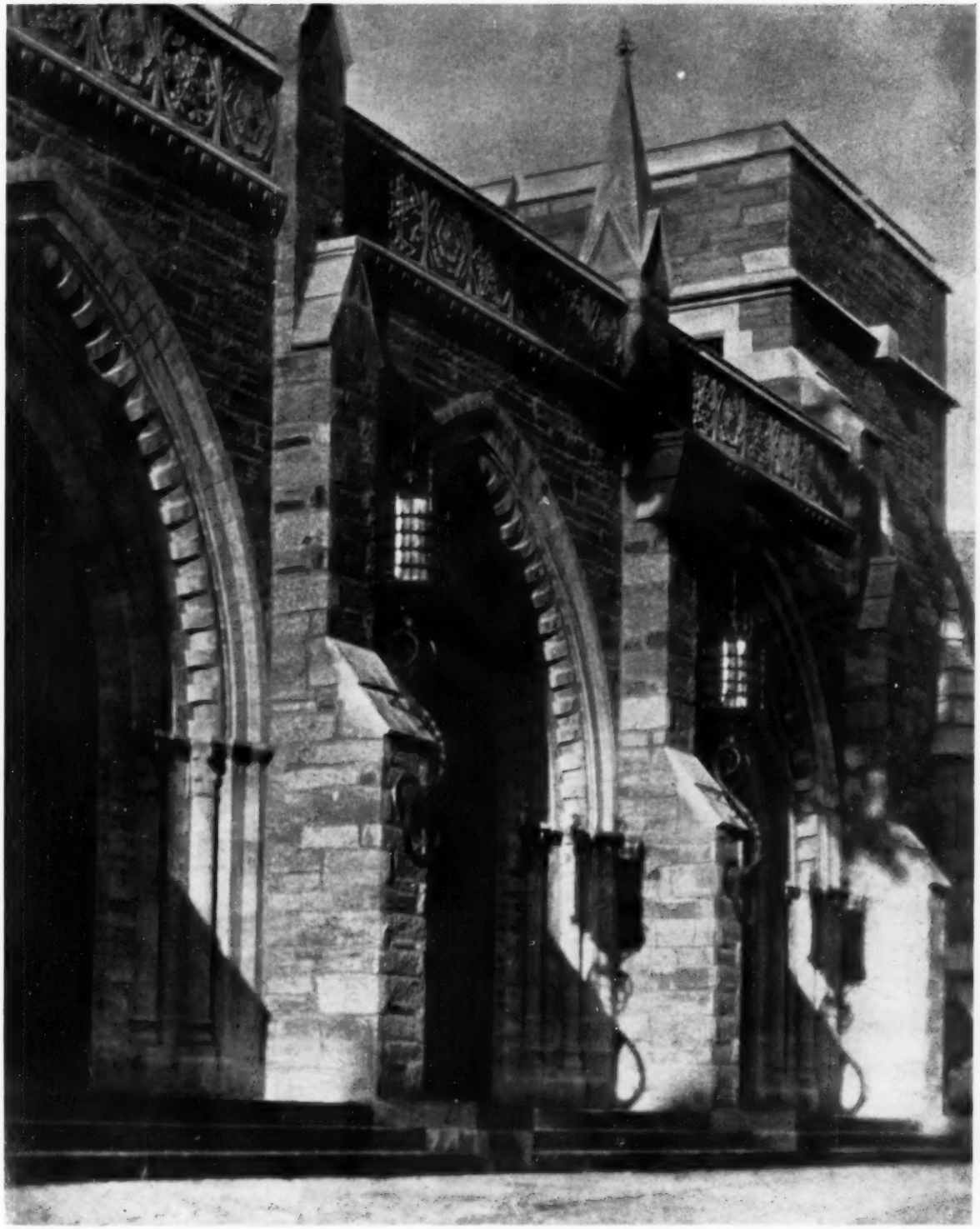

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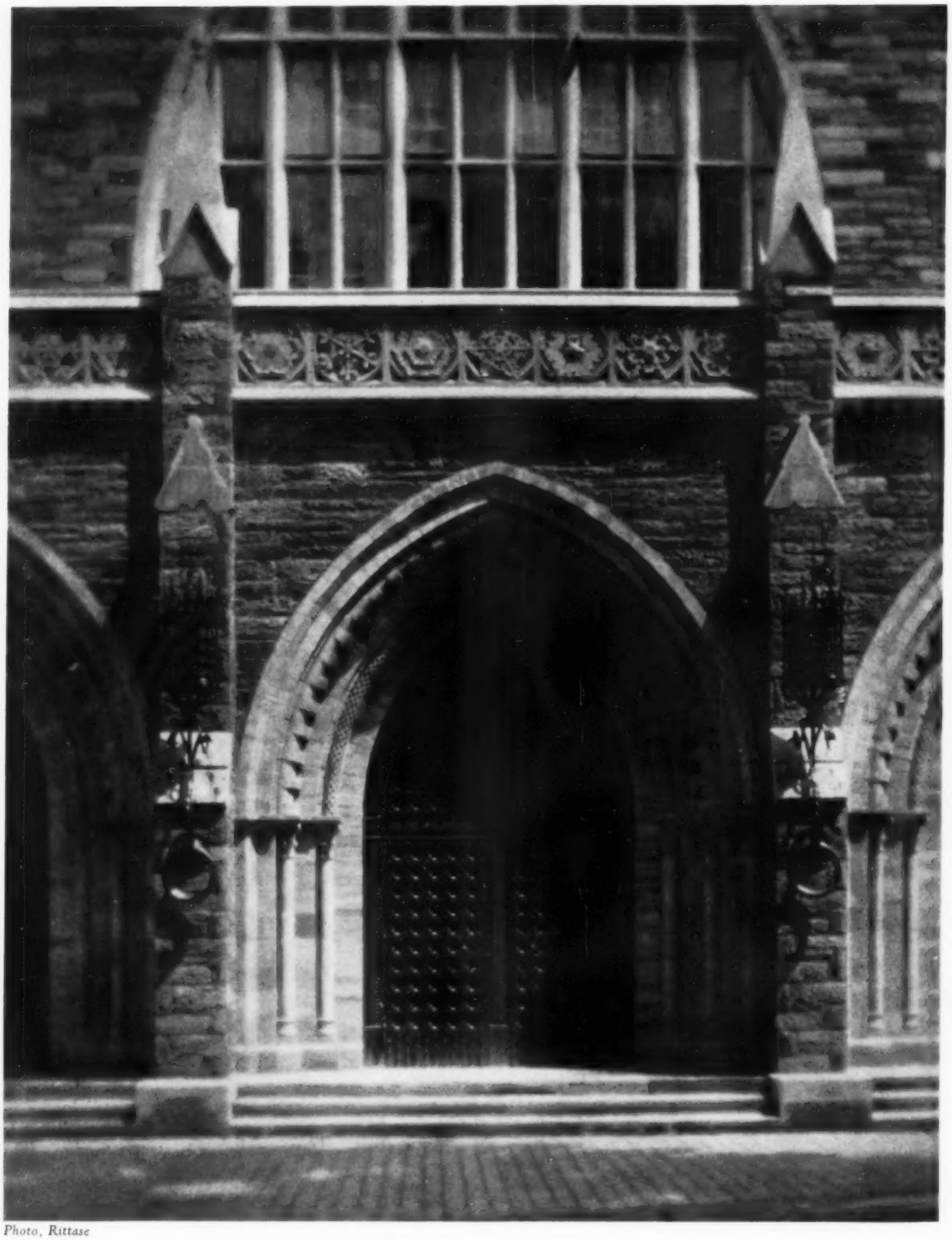
MAIN ENTRANCE DOORS
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS



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CENTRAL DOOR AND FROST CRYSTALS
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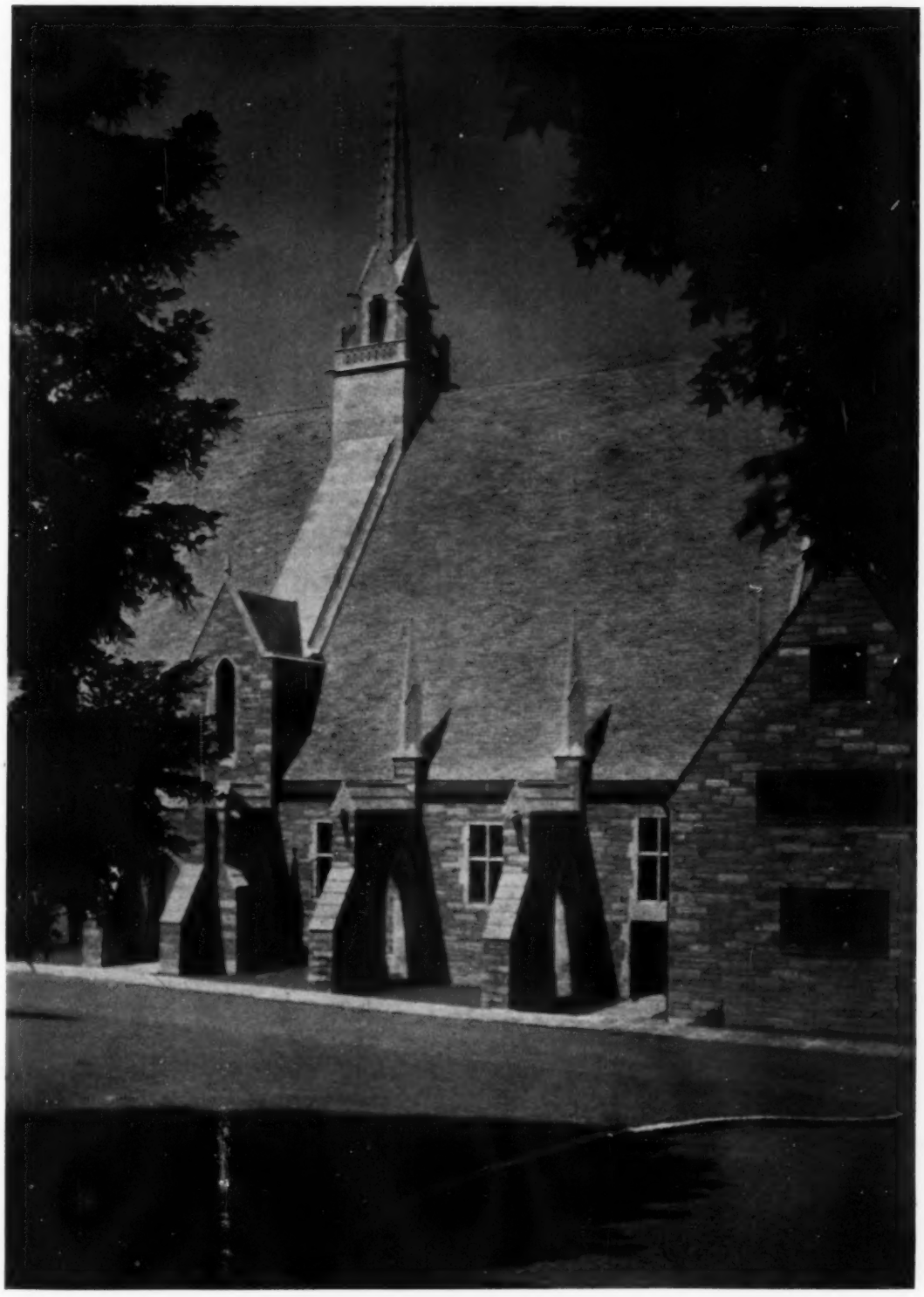

EAST SIDE

GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA

MELLOR & MEIGS, ARCHITECTS

FRONT ENTRANCE

Photo, Rittase

BEGINNING OF MUSIC WALK

GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA

MELLOR & MEIGS, ARCHITECTS

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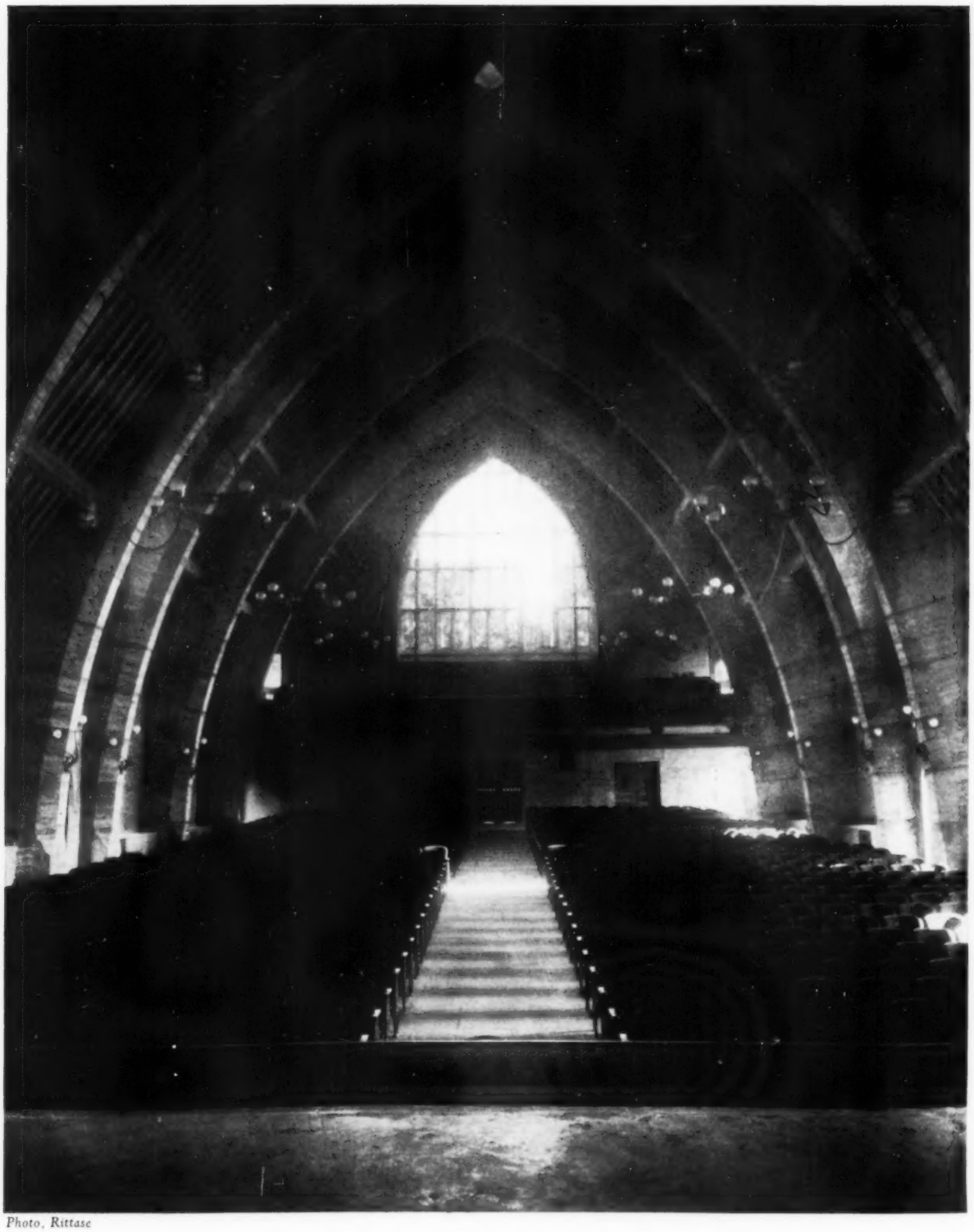
VIEW FROM NORTH WEST

NORTH SIDE

GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA

MELLOR & MEIGS, ARCHITECTS



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VIEW OF AUDITORIUM FROM THE STAGE
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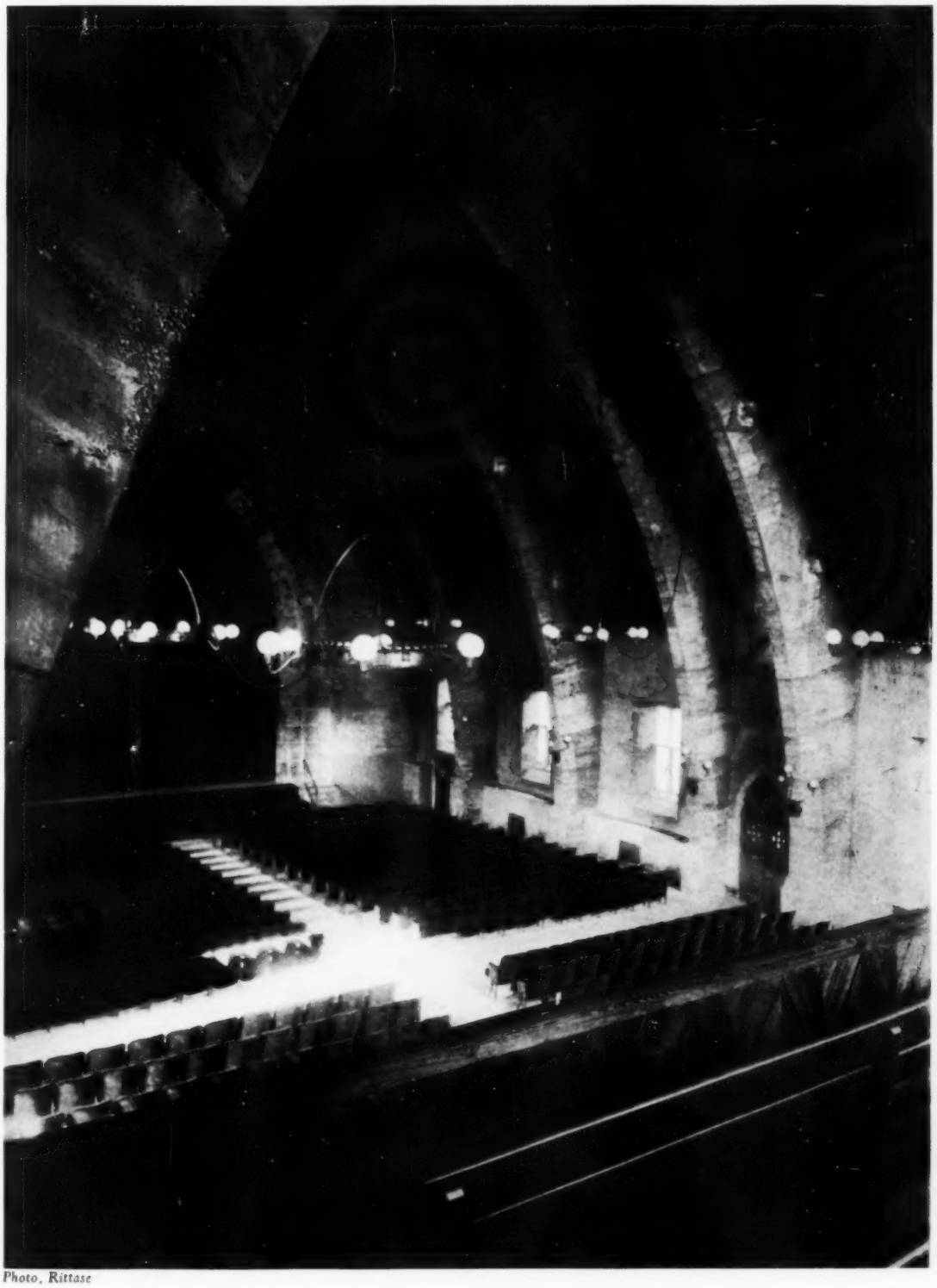

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VIEW OF AUDITORIUM FROM THE BALCONY
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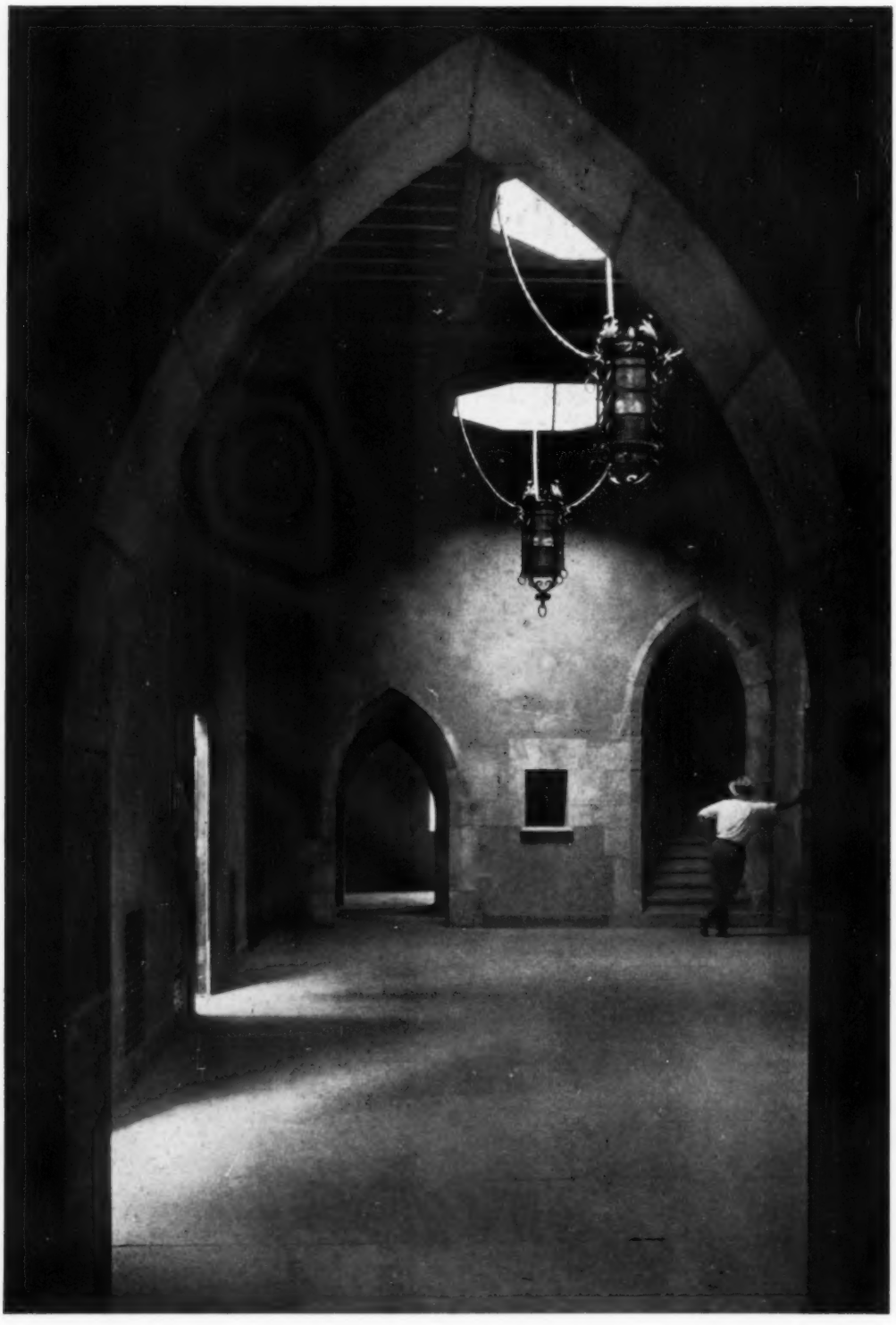
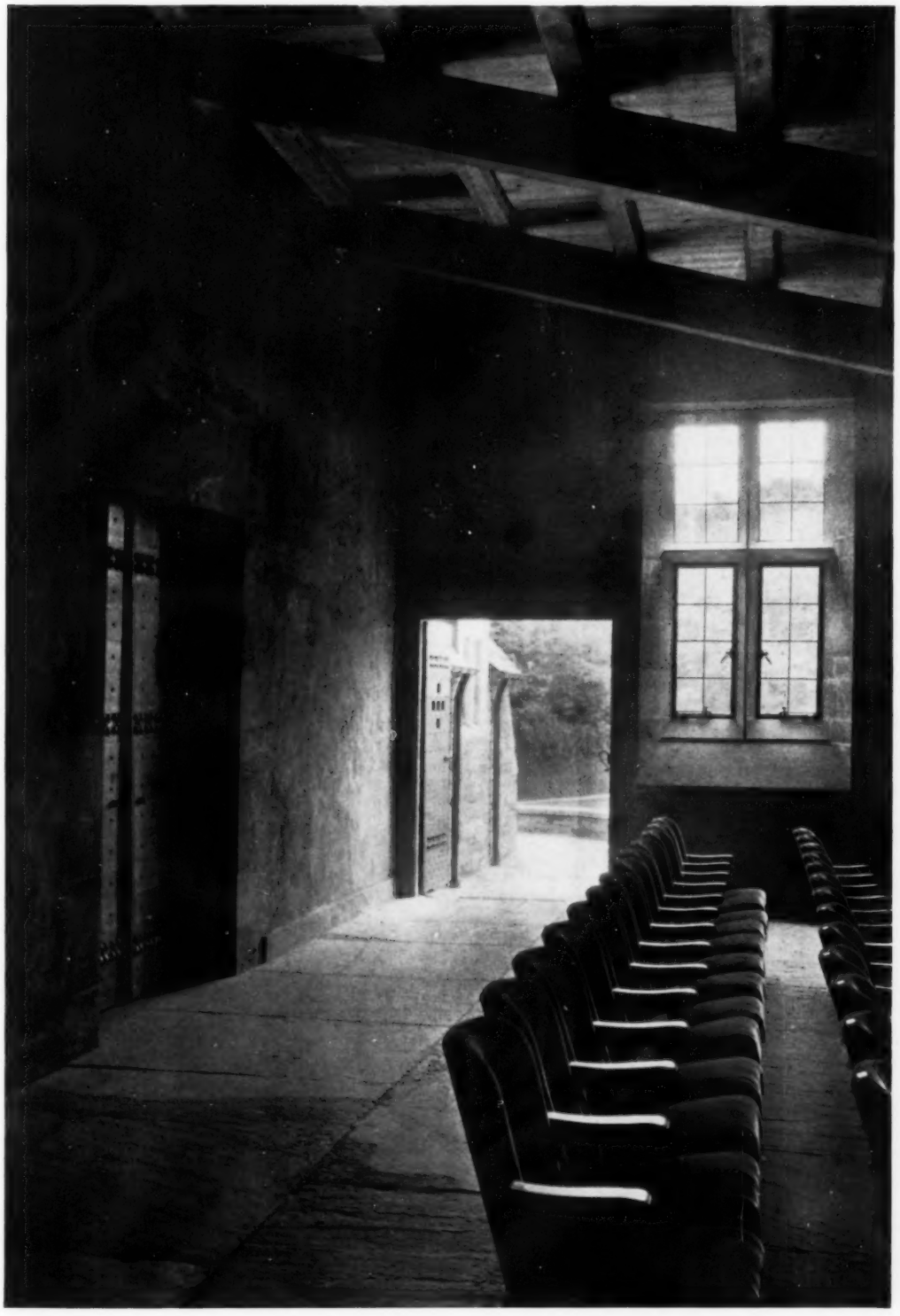


THE FOYER
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS



UNDER THE BALCONY
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS

lumber with their joints running radially.

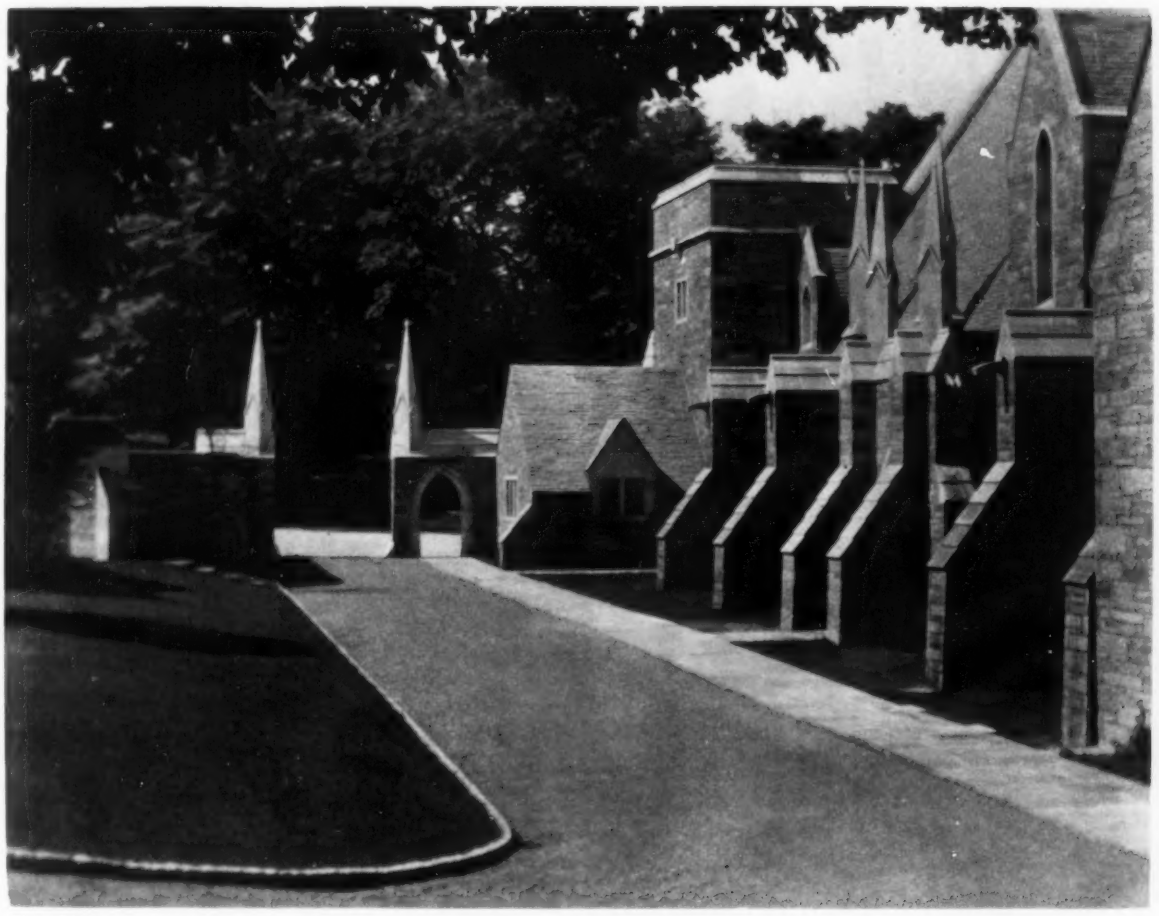
After concrete comes wood, and there is not much of it, but what there is, is stout and strong. Yellow pine for the roofs and balcony and oak for the doors.

Finally, we come to the iron, left to the last on purpose. Two huge twisted iron ropes hold up the balcony. Rivets, bolts and bosses hold the doors together; hinges carry them, shoot bolts, pulls and thumb latches operate them; and so on through the stair-rails and lamps and brackets of many different descriptions. And why were all these surfaces of stone and concrete, plaster and wood left so plain and unobtrusive? Why indeed, other than to allow the wrought iron work of one Mr. Samuel Yellin, master craftsman, to achieve a craftsman's purpose. We cannot have a design consisting only of accents, no matter how fond we may be of them; nor can we have nothing but plain surfaces and backgrounds. We must have both, and the two must be inter-related.

What does architectural design boil down to but to have a want, to find an idea to fit it, to clothe and build the idea in materials, and to seek to make the materials harmonize, to apportion to each material the job that it is fitted to do, and to try to leave all the materials comfortable and happy in the end?

VIEW FROM NORTH WEST
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS

PORTFOLIO
OF
CURRENT ARCHITECTURE



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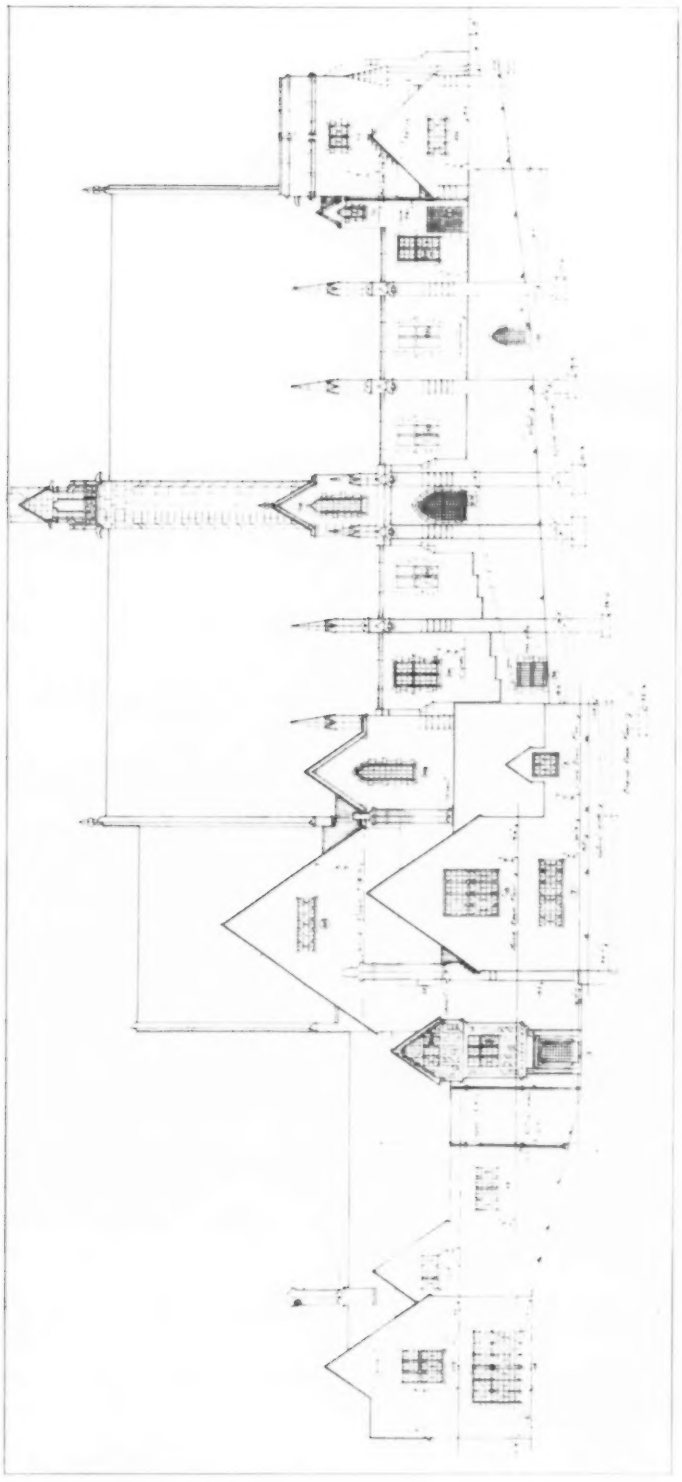
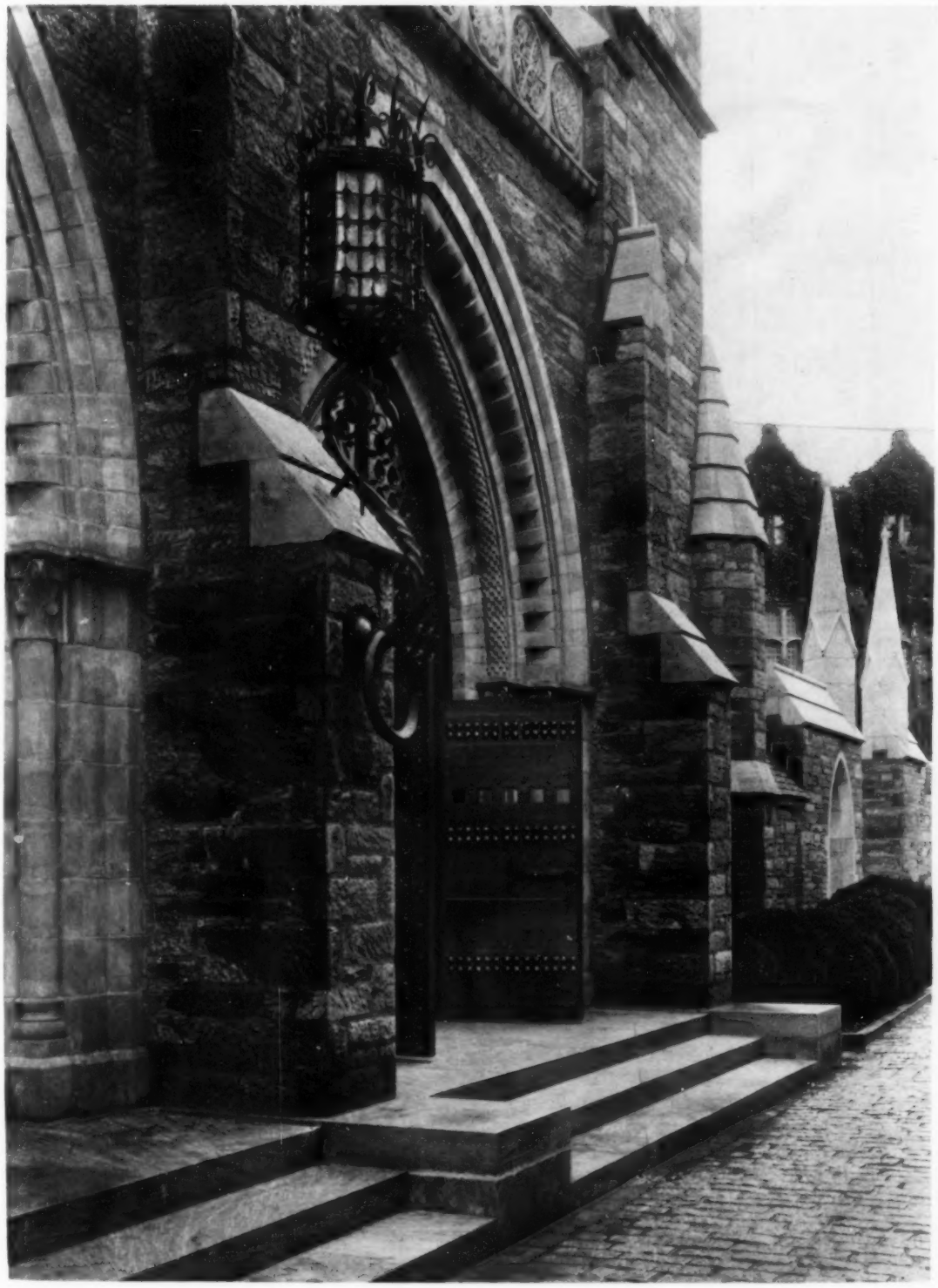
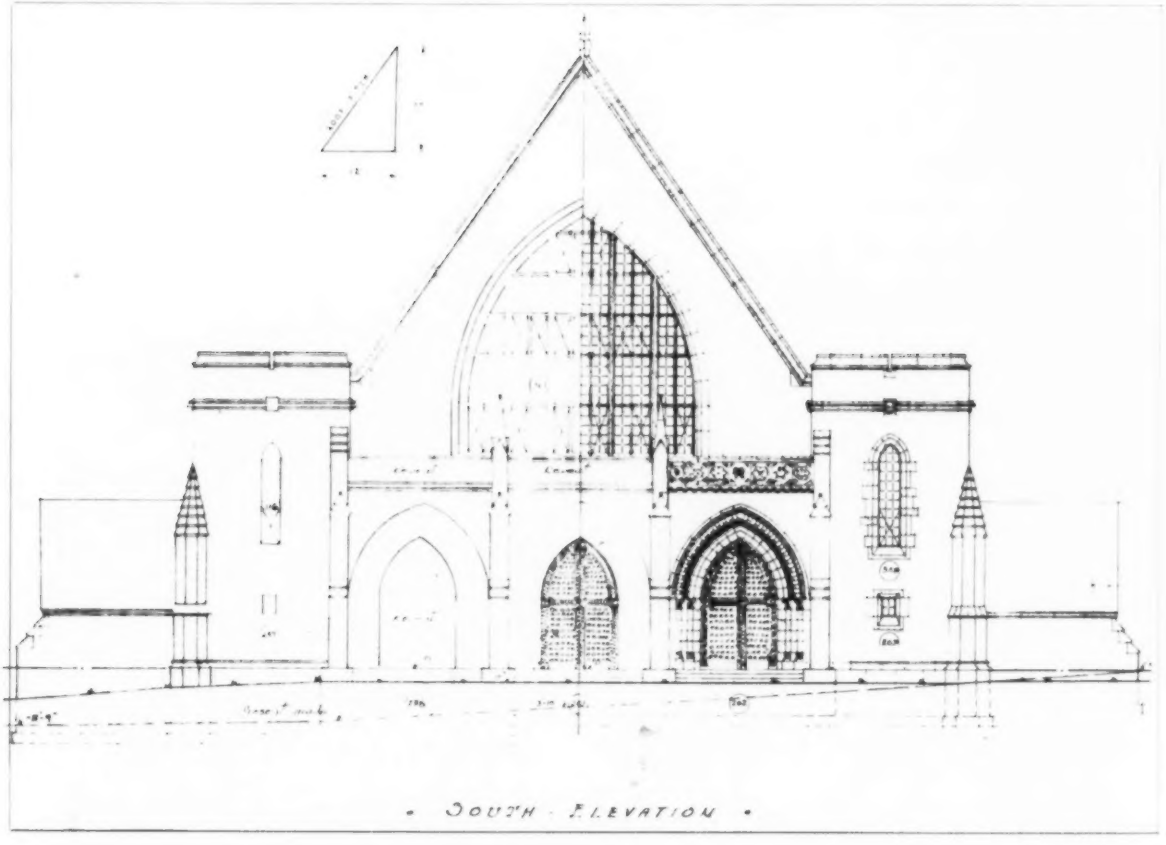
Buttresses on East Walk
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS



West Elevation
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS



Main Entrance to Auditorium
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS



Goodhart Hall, Bryn Mawr College, Pennsylvania
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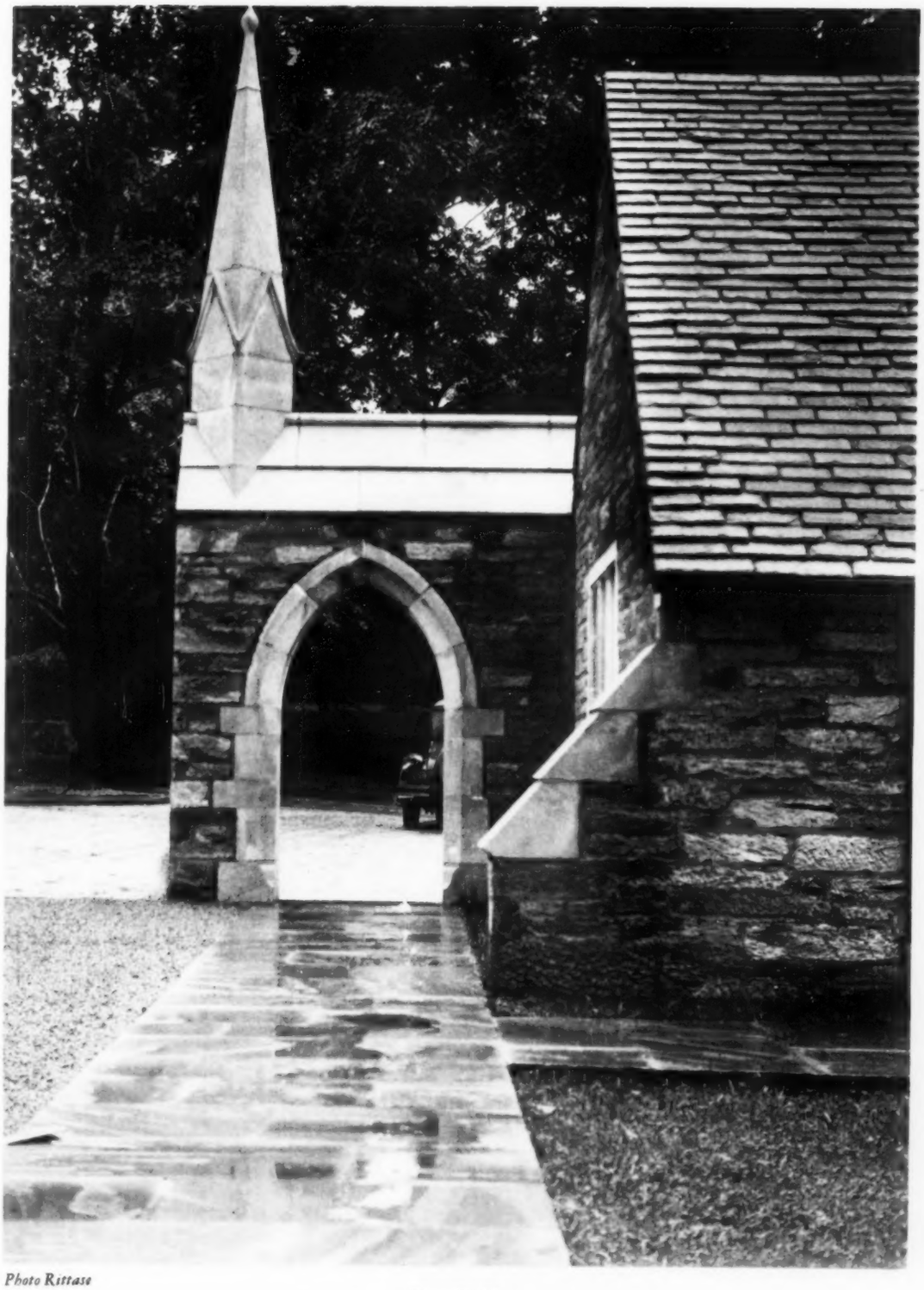

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East Walk
Goodhart Hall, Bryn Mawr College, Pennsylvania
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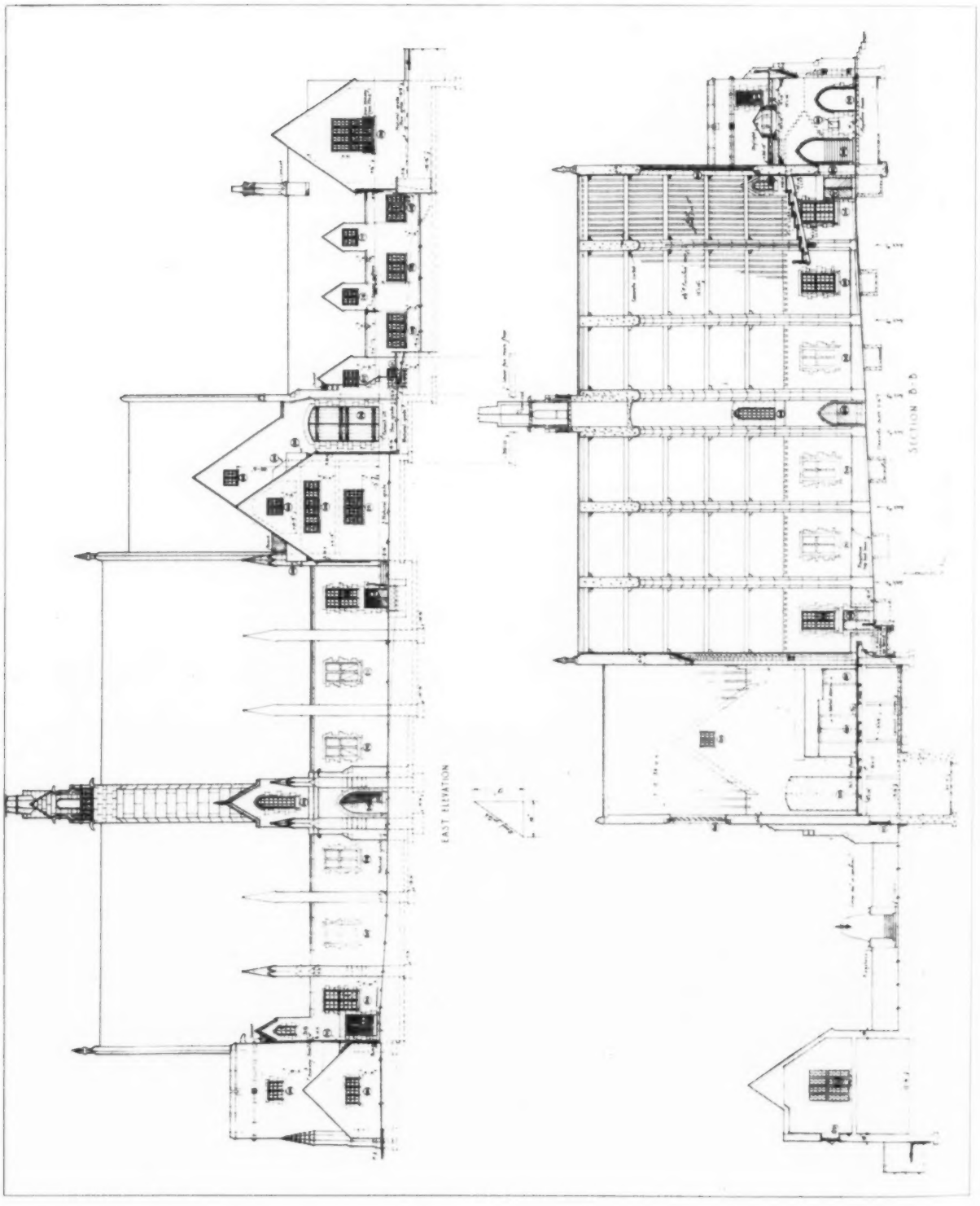
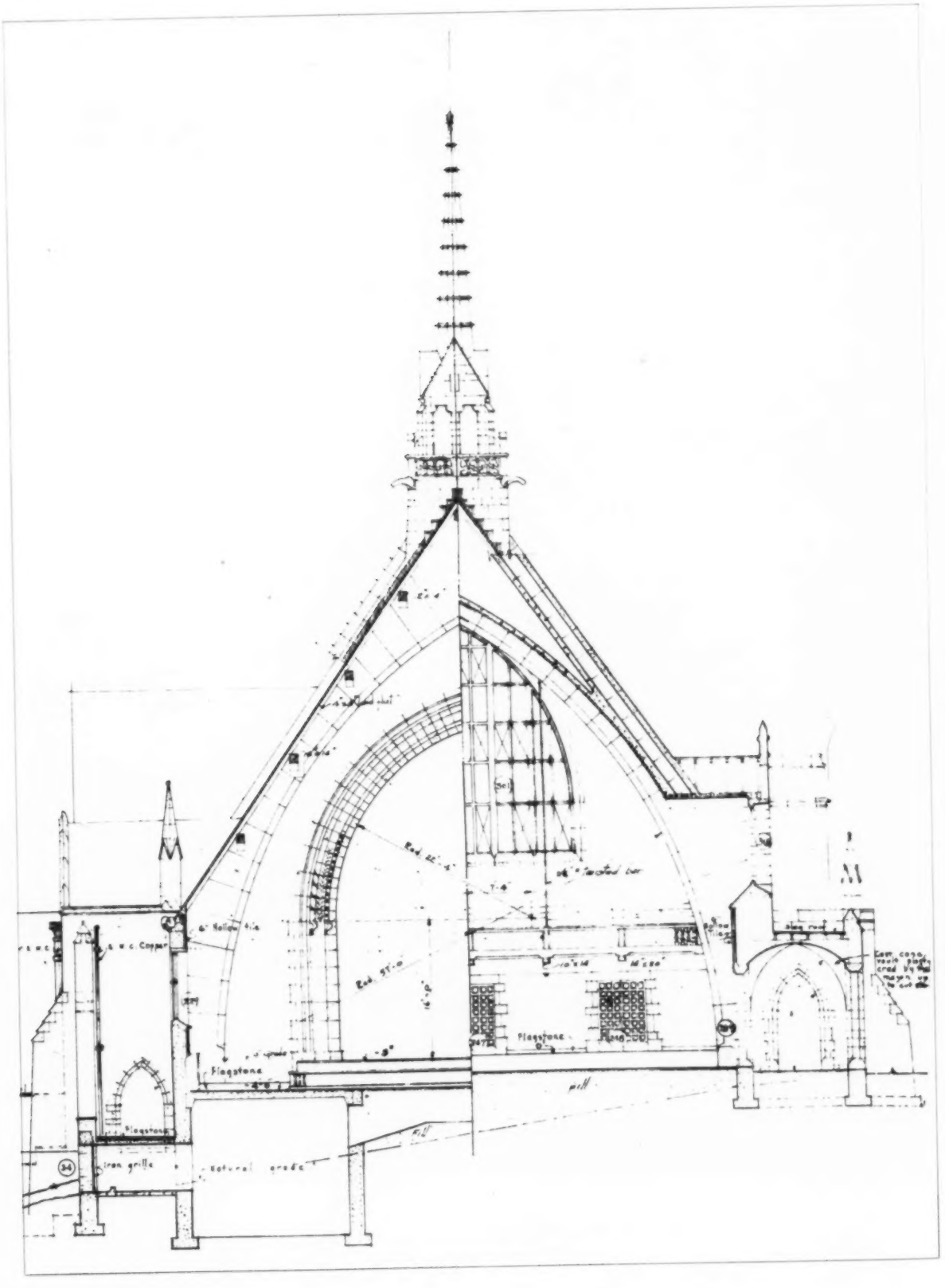
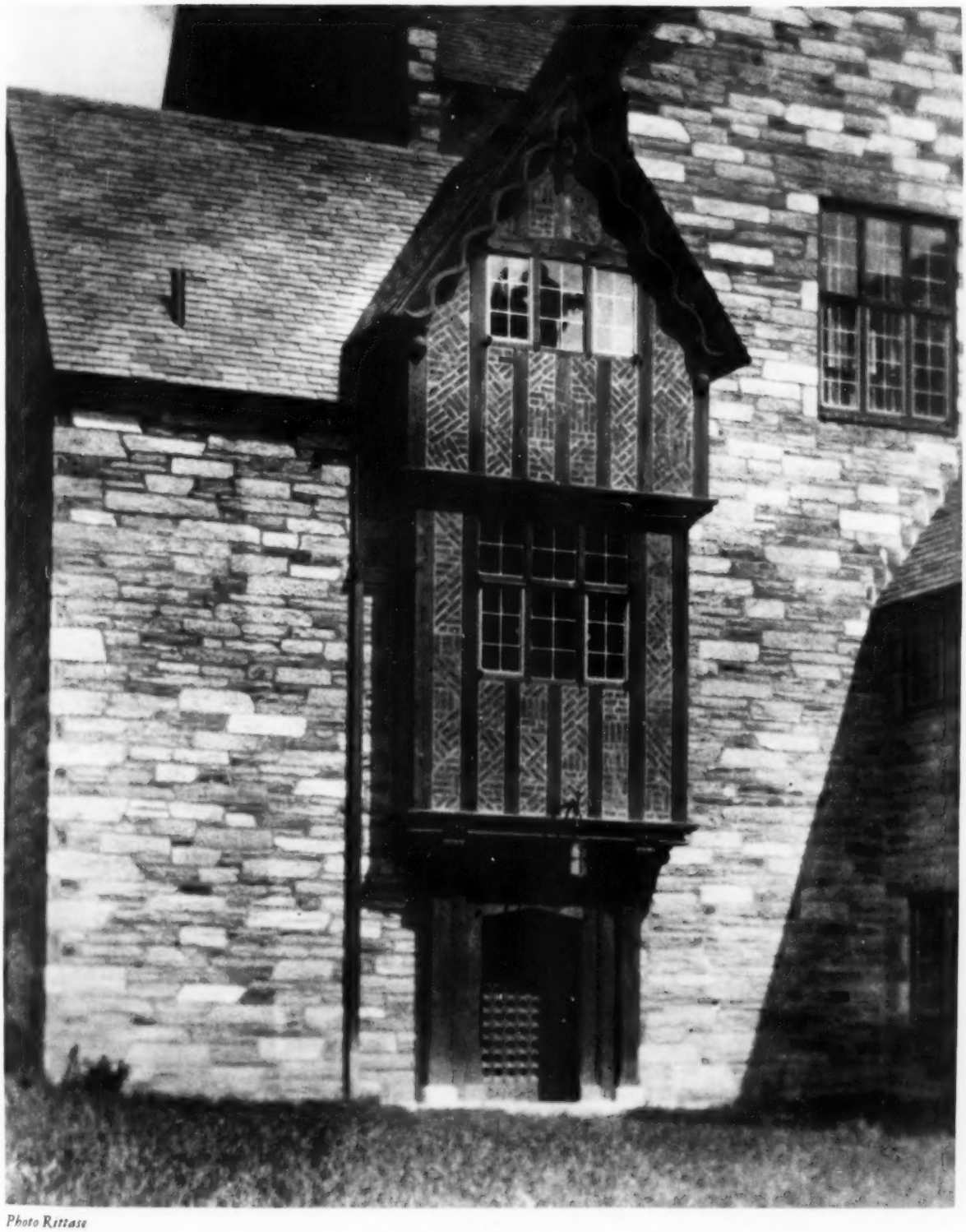

EAST ELEVATION
SECTION B-B

The Music Walk
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS


Flagstone
Flagstone
Flagstone
Iron grille
Natural grade



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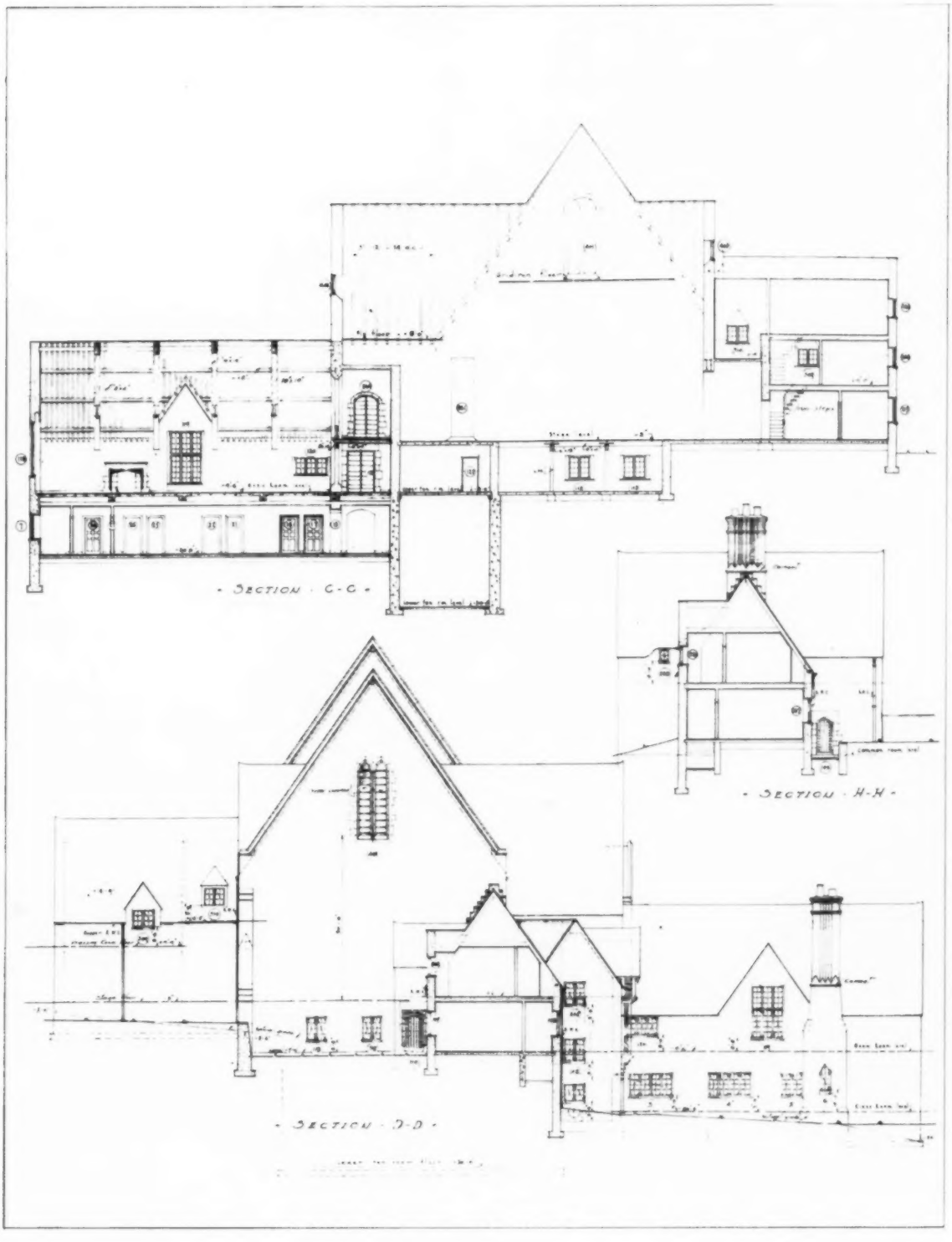
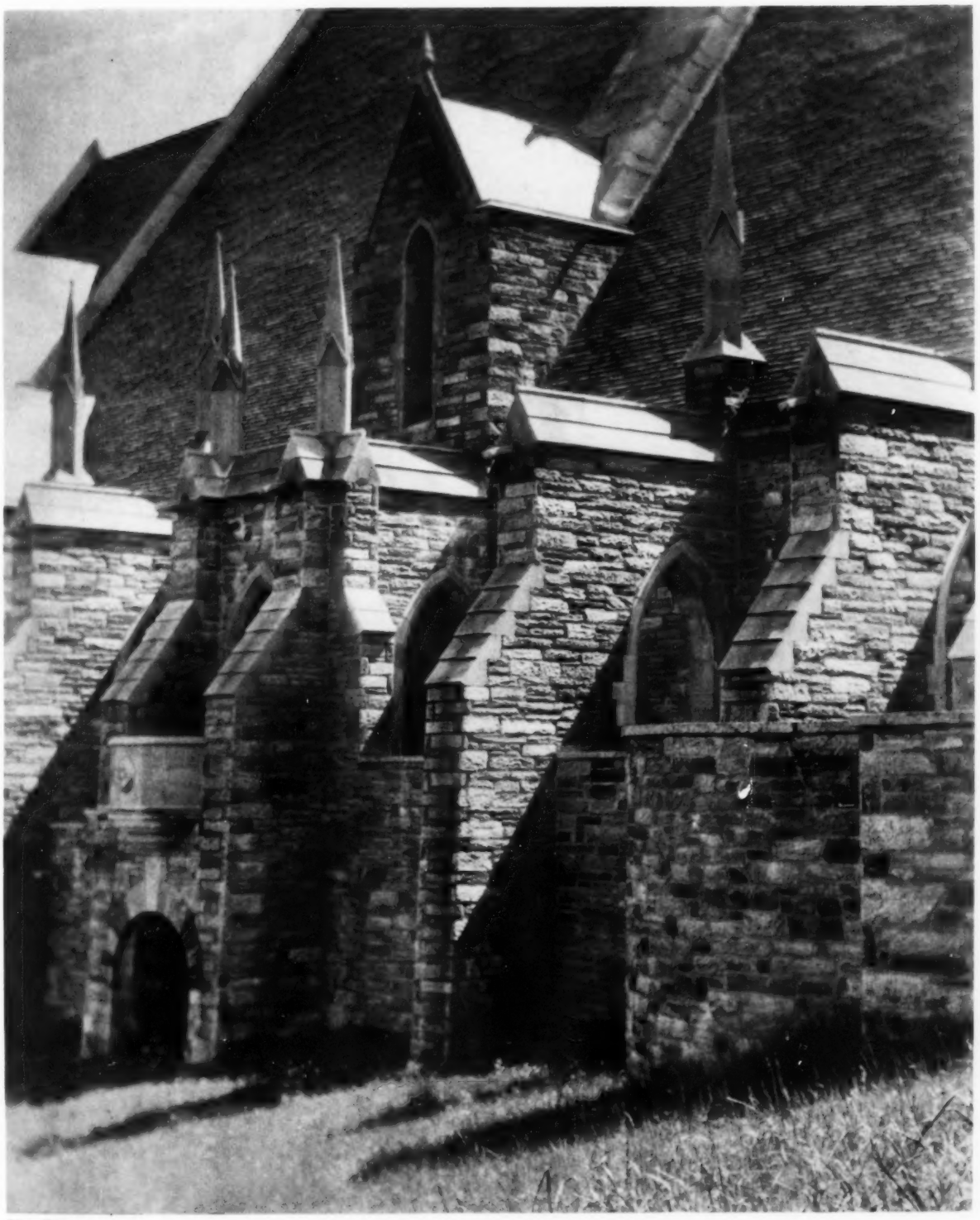
Stair Gable
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS



Detail Drawings
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS



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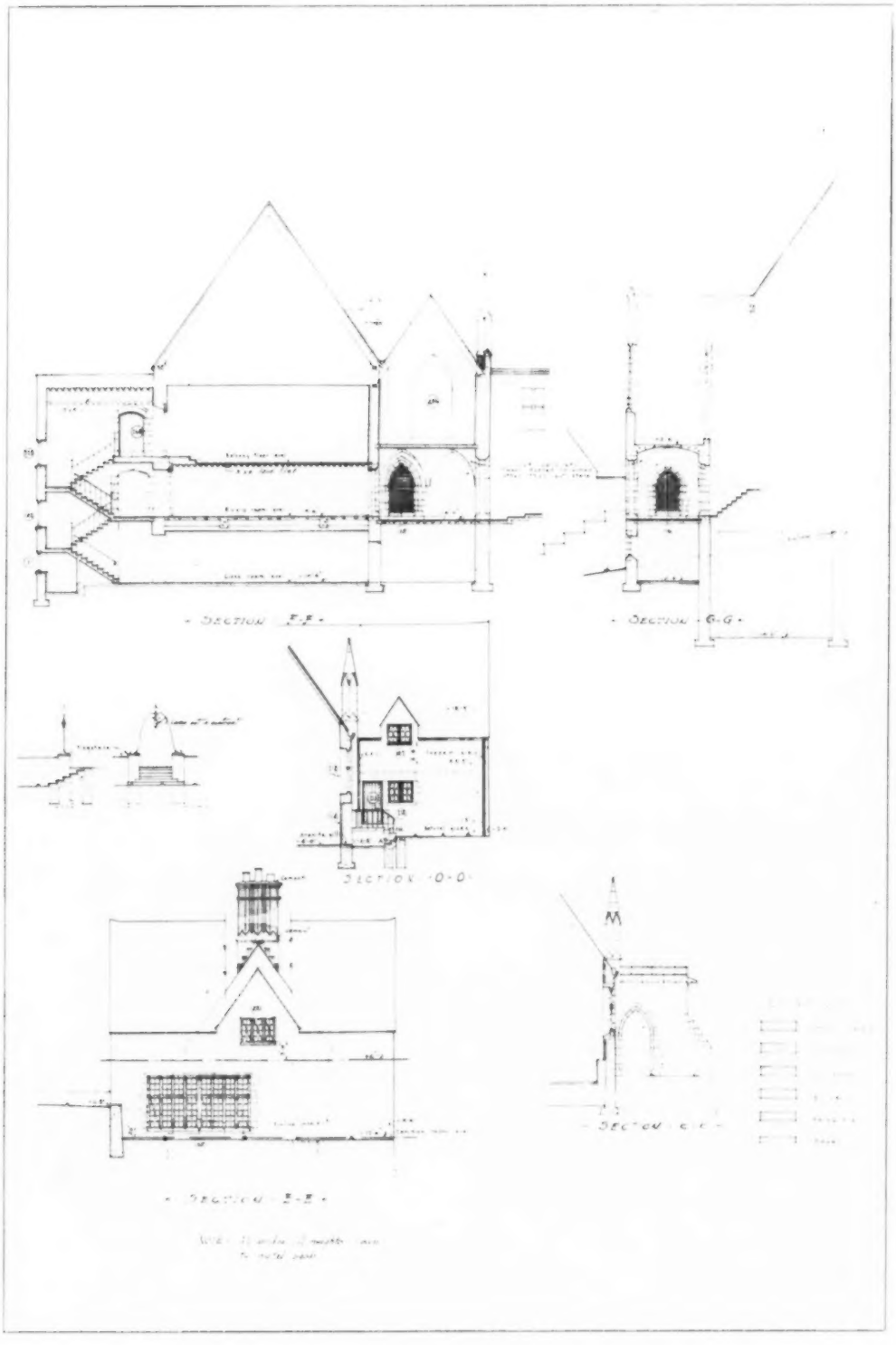
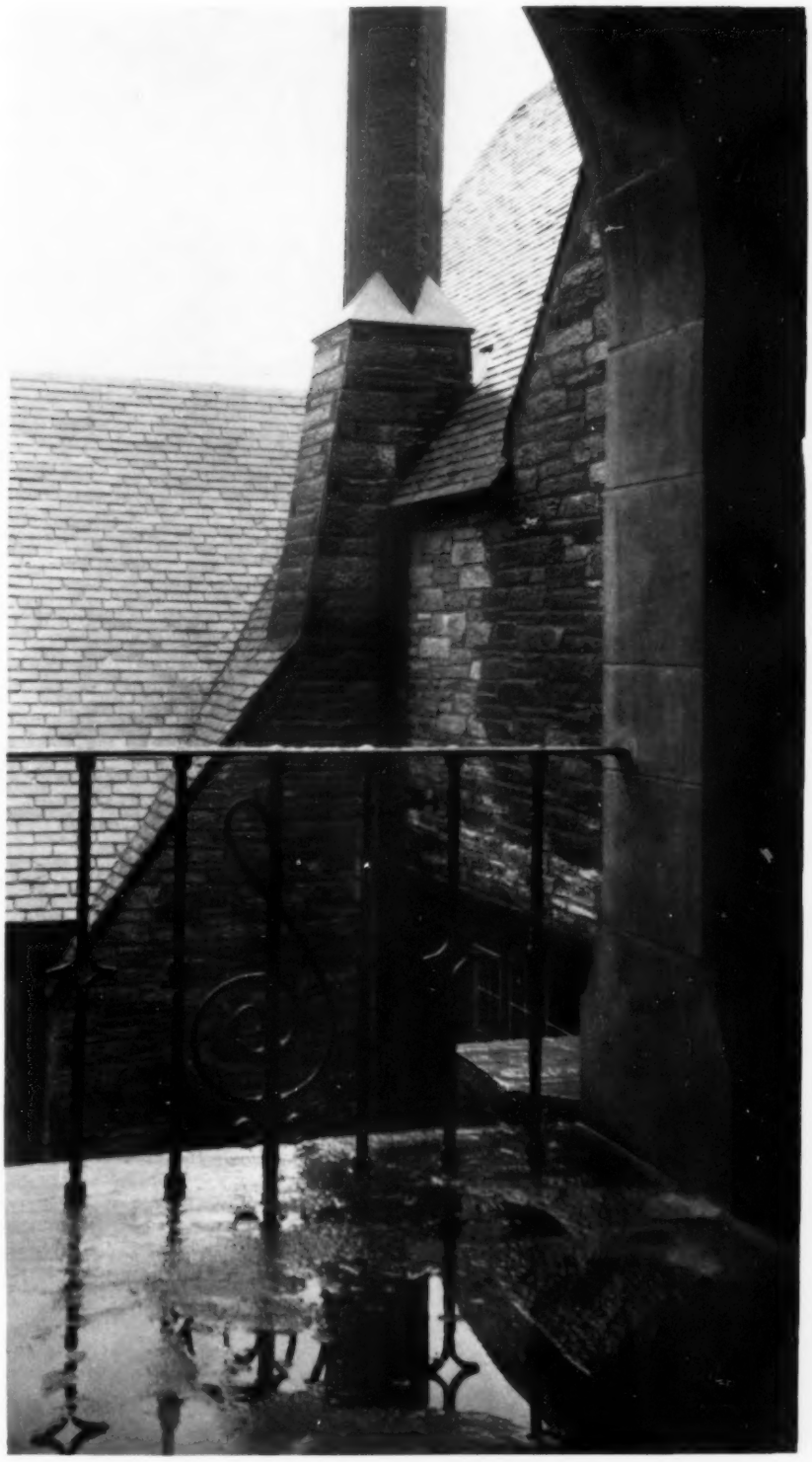
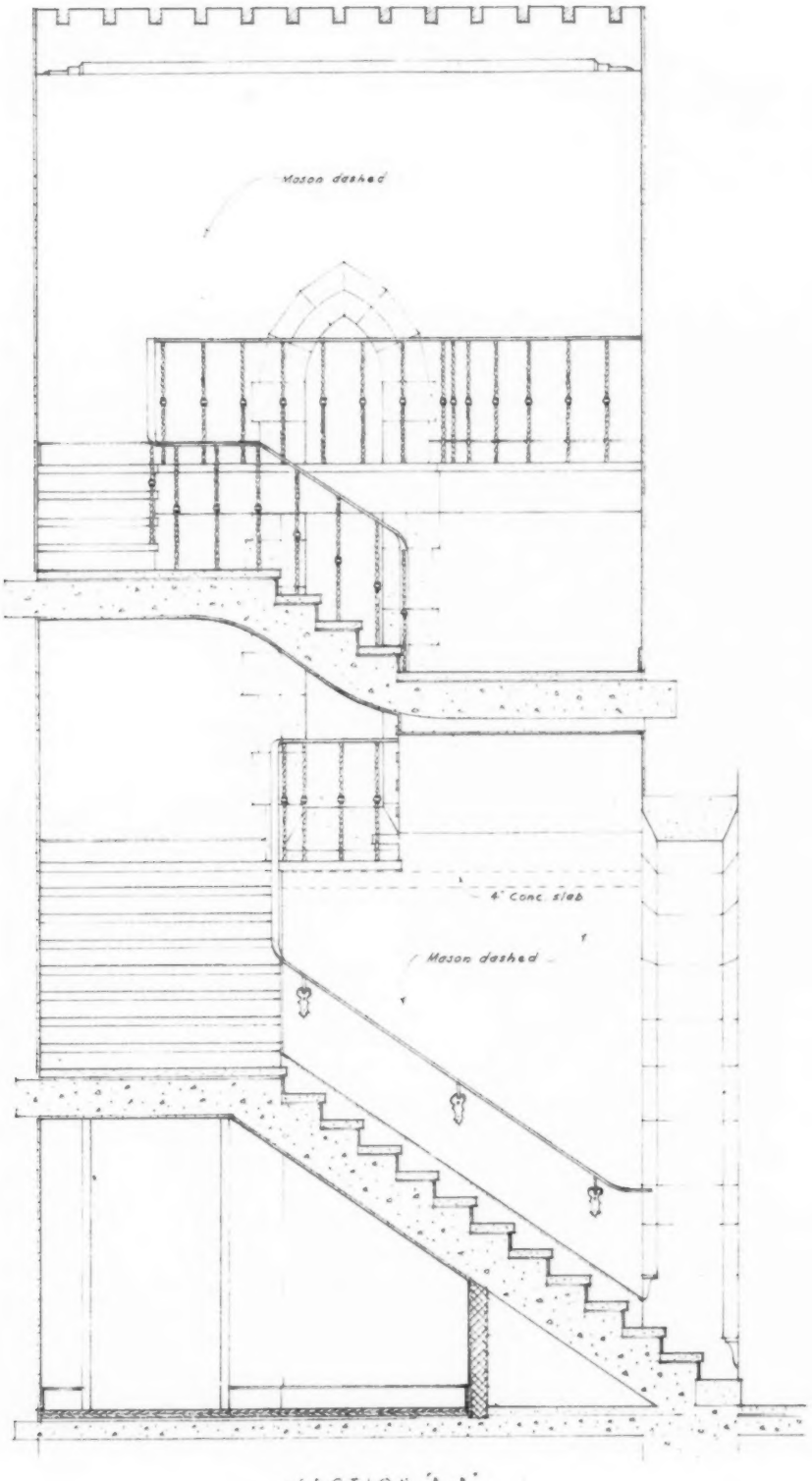
Balcony on Music Walk
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS



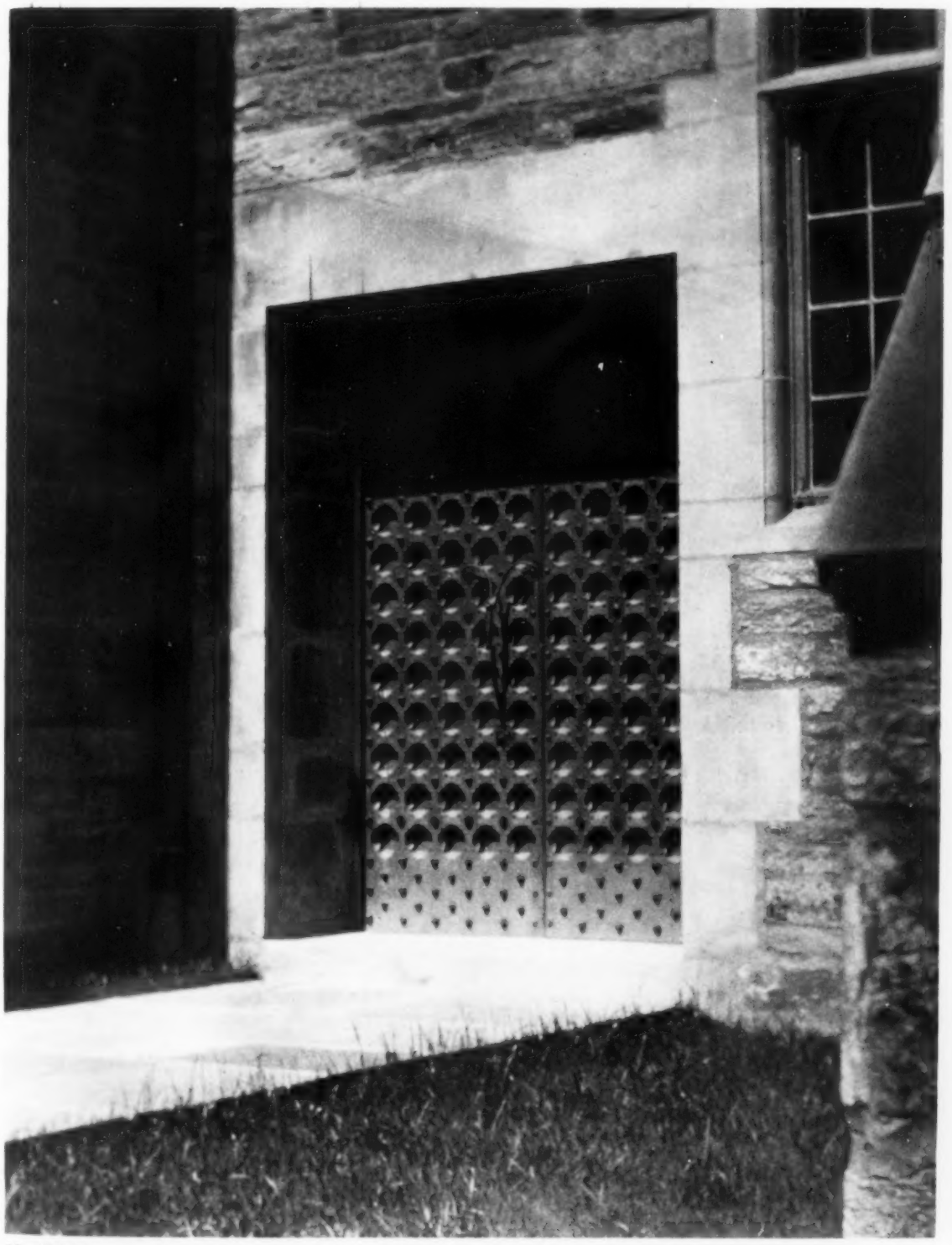
Detail Drawings
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS



View from beneath the Organ Chamber
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS



SECTION "B-B"
DETAIL OF STAIR HALL
MARJORIE WALTER GOODHART HALL
BRYN MAWR COLLEGE ~ PA
MELLOR, MEIGS & HOWE ~ ARCH'TS
PHILADELPHIA ~ PENNA



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East Entrance
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS

Built in the
In memory of
GOODHUE
SECTION
KEY ELEVATION
SECTION

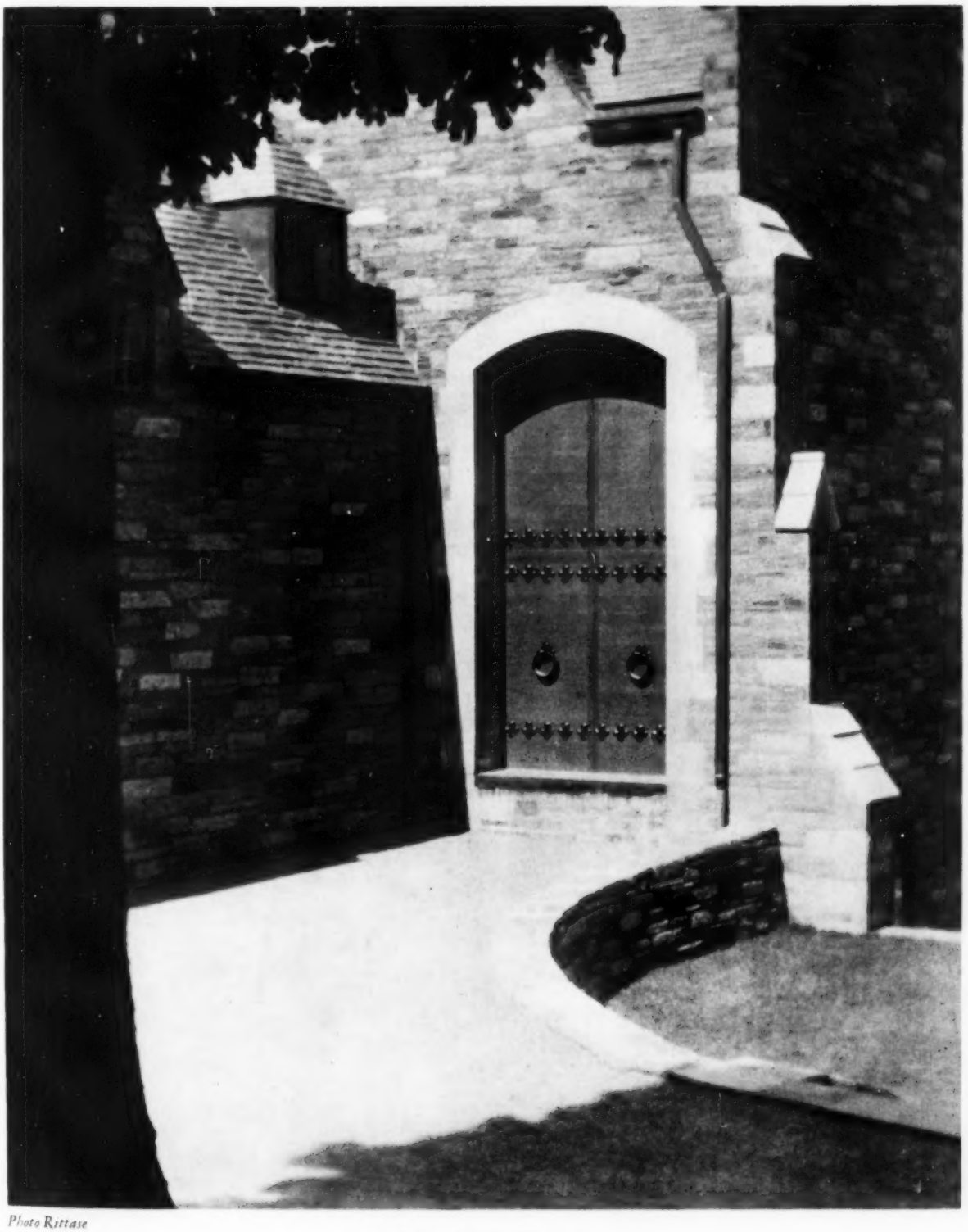
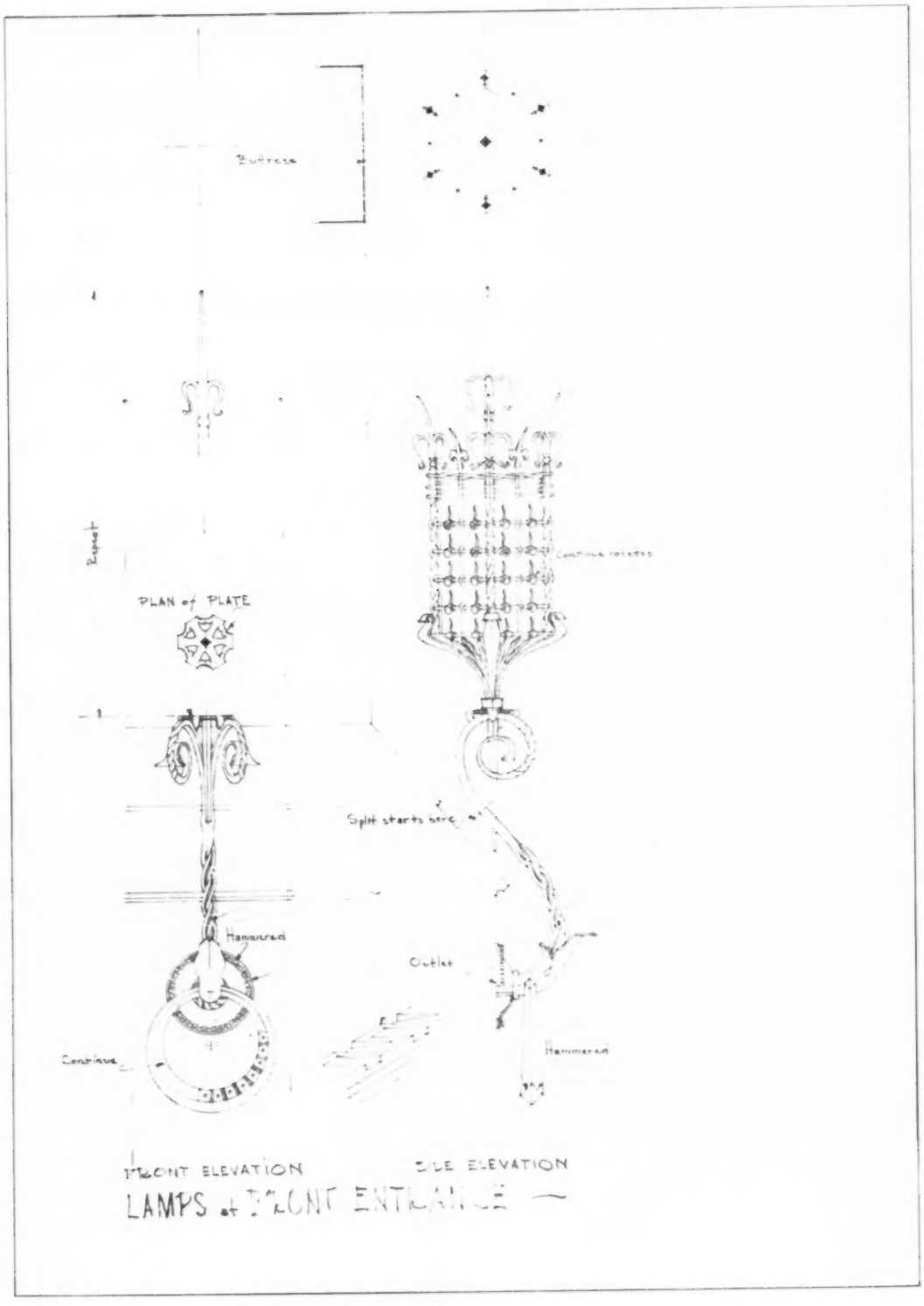


Photo Rittase

Stage Scenery Door
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS



Detail Drawing of Lamp
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS

Photo Rittase

Green Room Entrance
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS

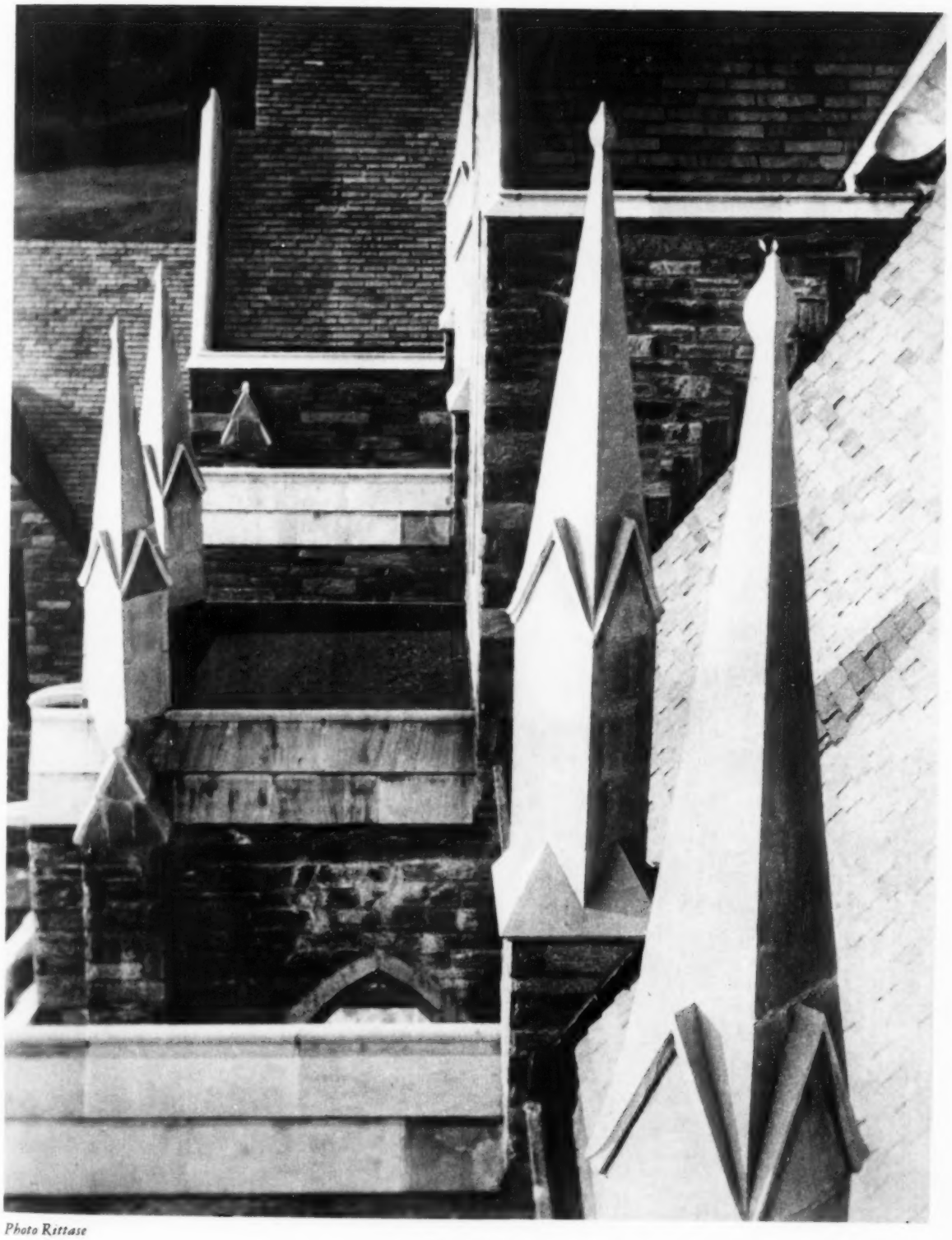
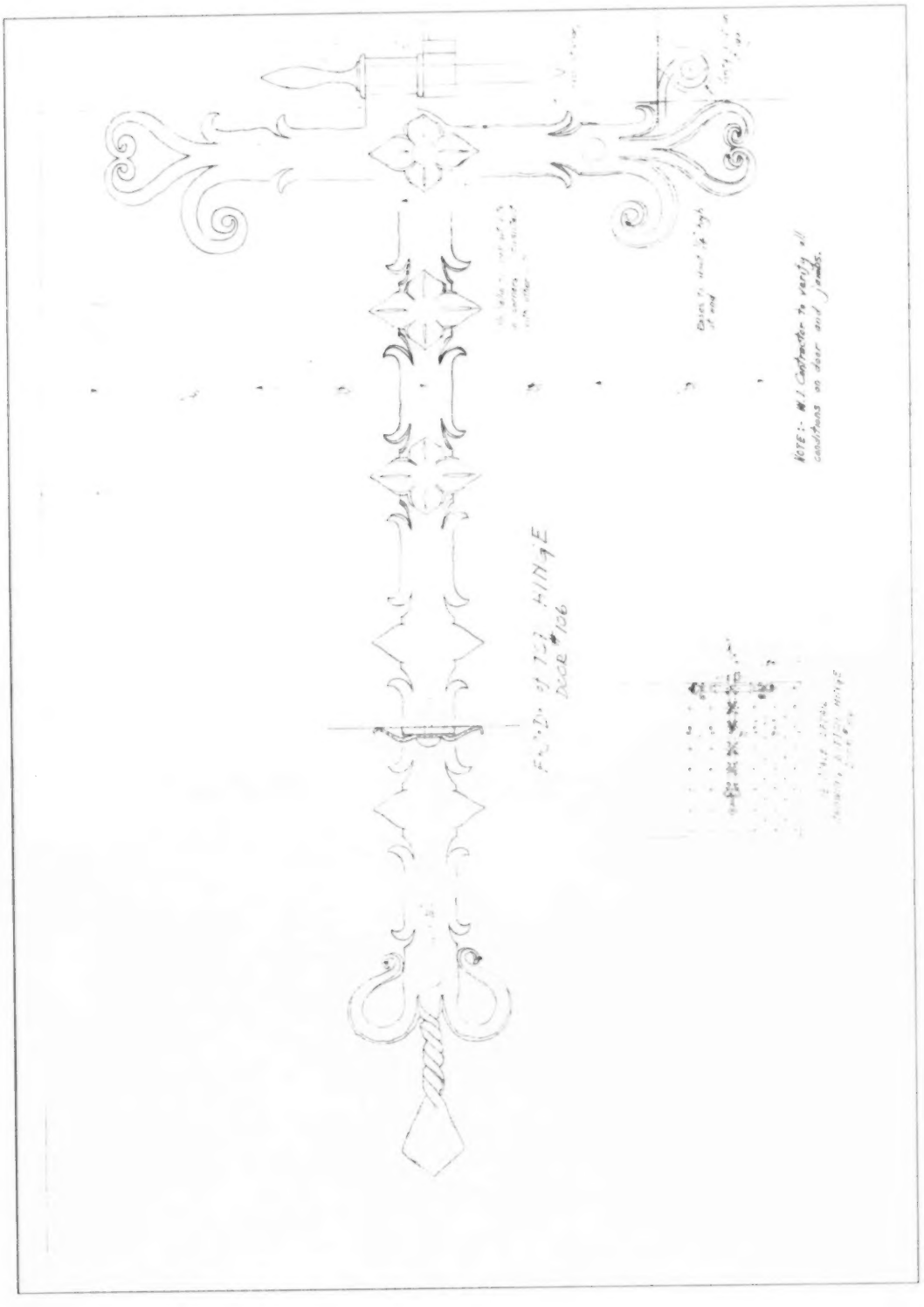


Photo Rittase

Pinnacles
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS



Hinge Detail
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS

Photo Rittase

The Flèche
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS

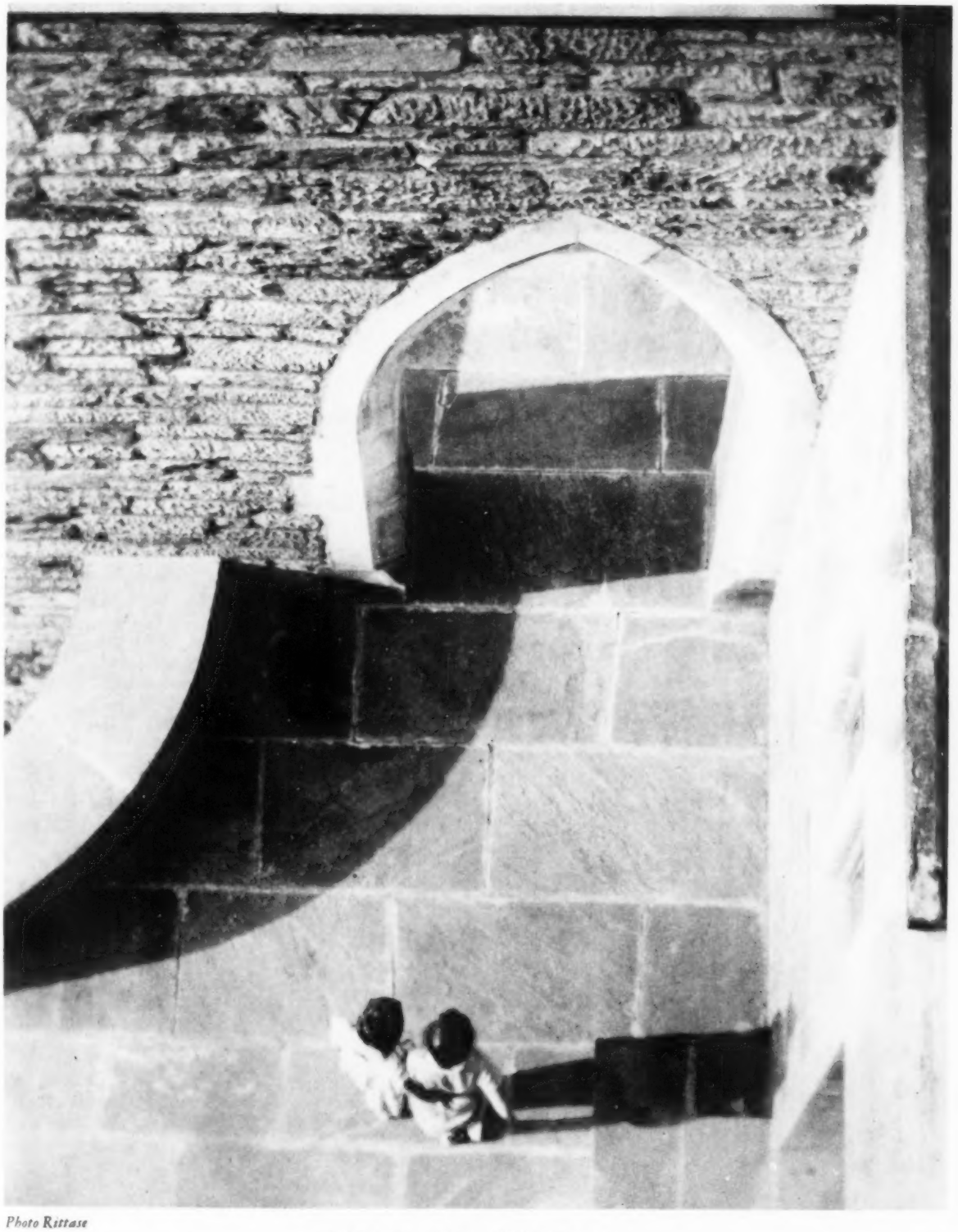


Photo Rittase

Bird's Eye View of Music Walk
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS

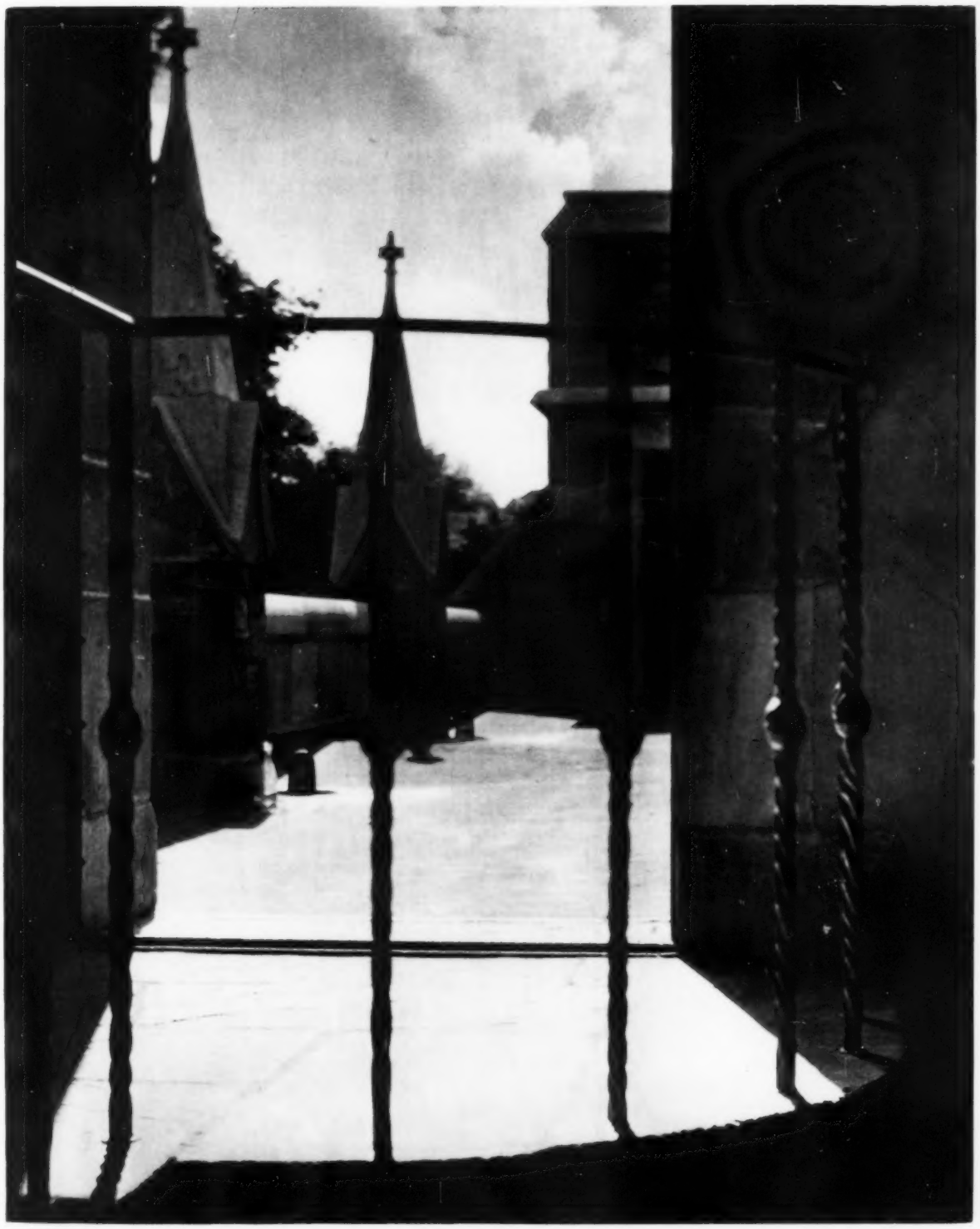
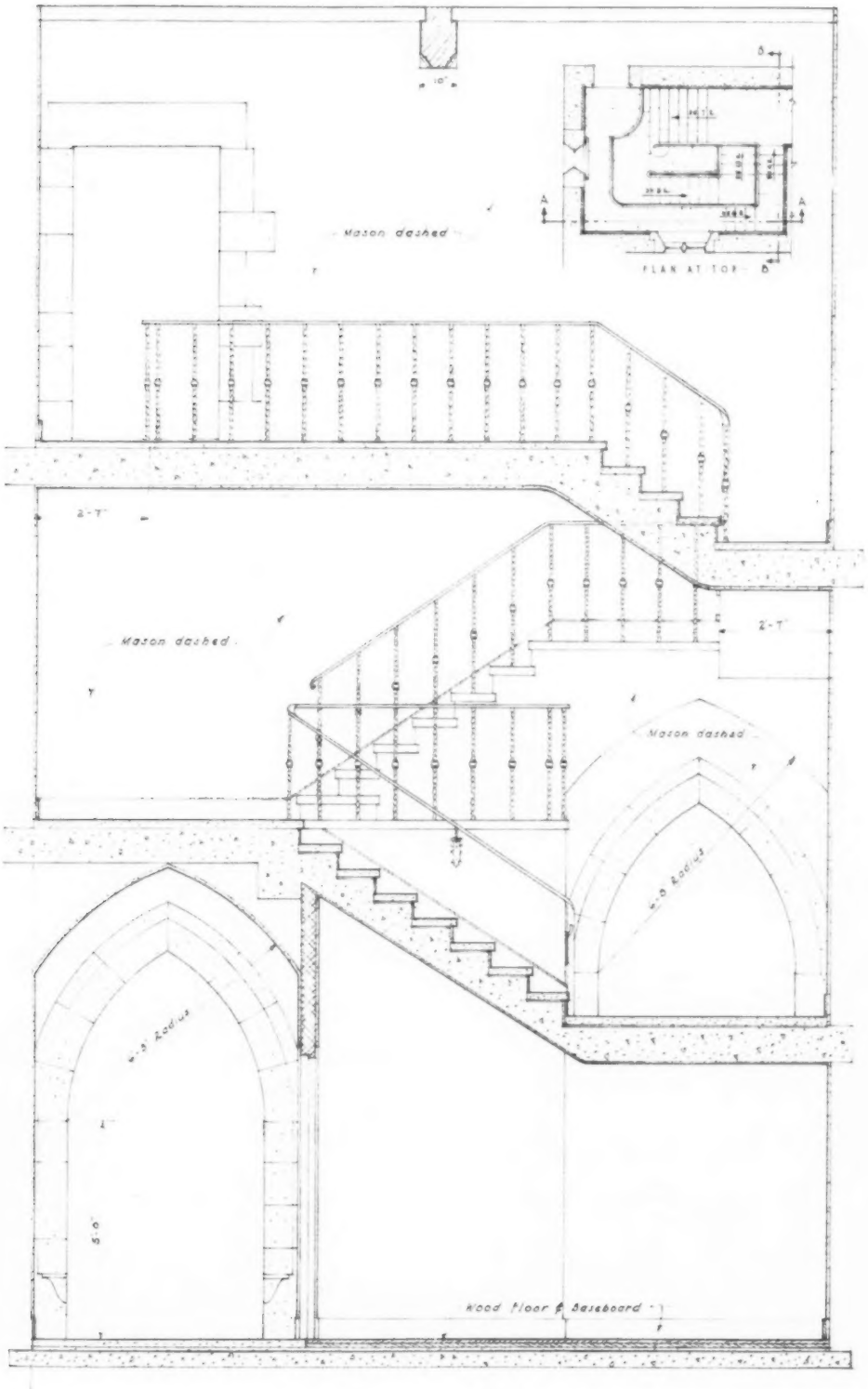


Photo Rittase

Deck over Foyer
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS

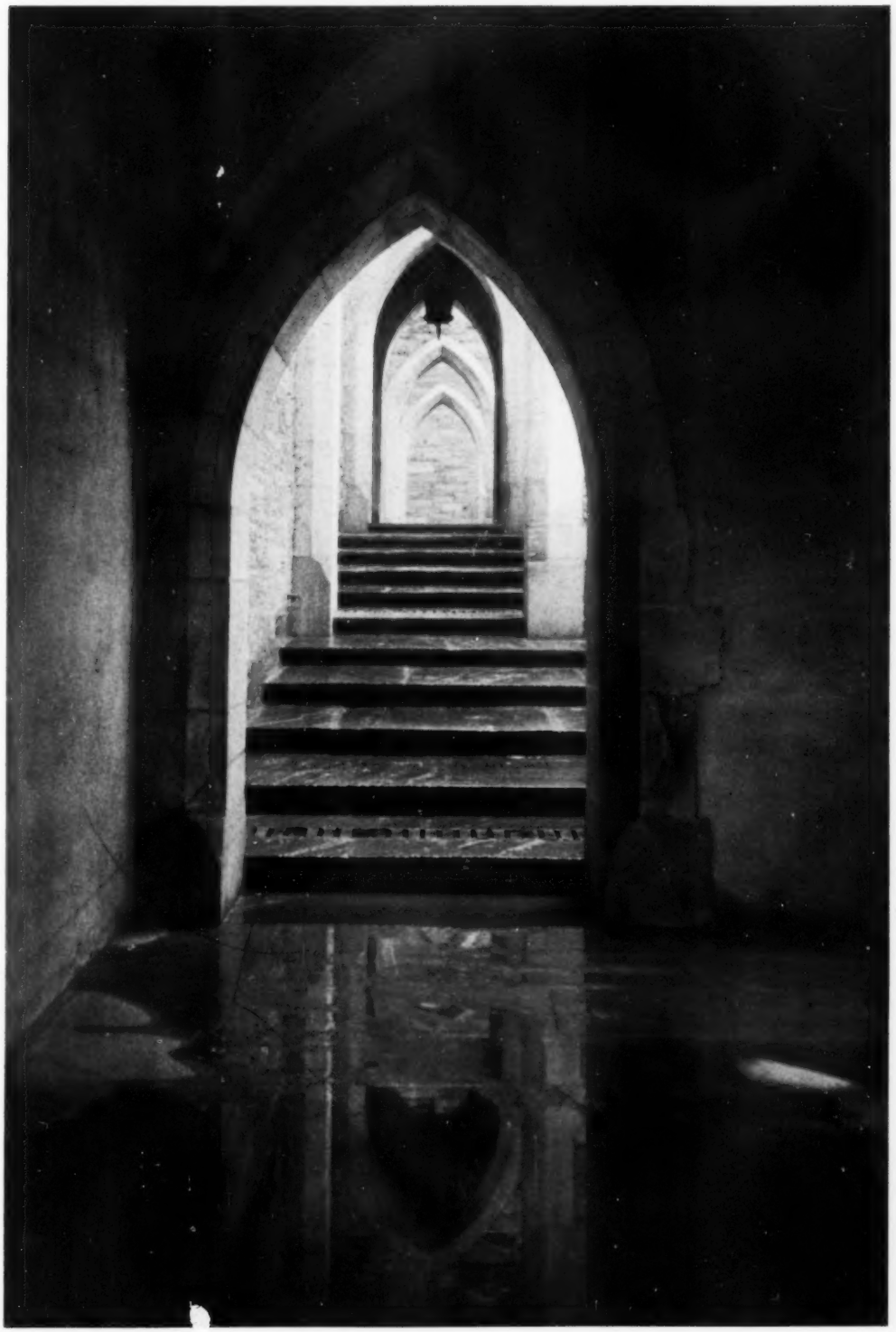


SECTION "A-A"
DETAIL OF STAIR HALL
MARJORIE WALTER GOODHART HALL
BRYN MAWR COLLEGE ~ PA.
MELLOR, MEIGS & HOWE ~ ARCH'TS
PHILADELPHIA ~ PENNA.

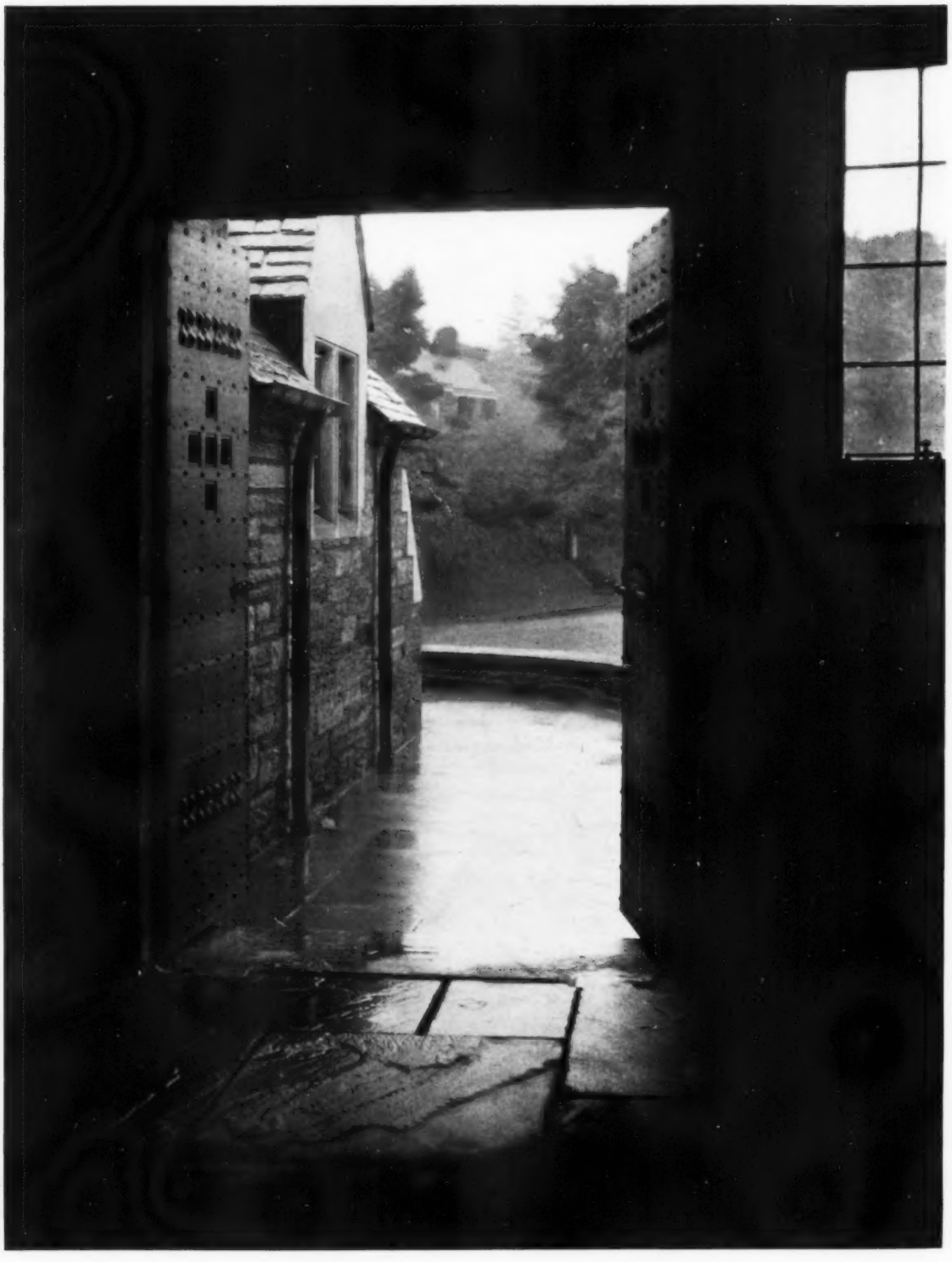
Stairway and Balcony
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS

Photo Rittase

Common Room Fireplace
Goodhart Hall, Bryn Mawr College, Pennsylvania
MELLOR & MEIGS, ARCHITECTS



THE ARCHES OF THE MUSIC WALK
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS



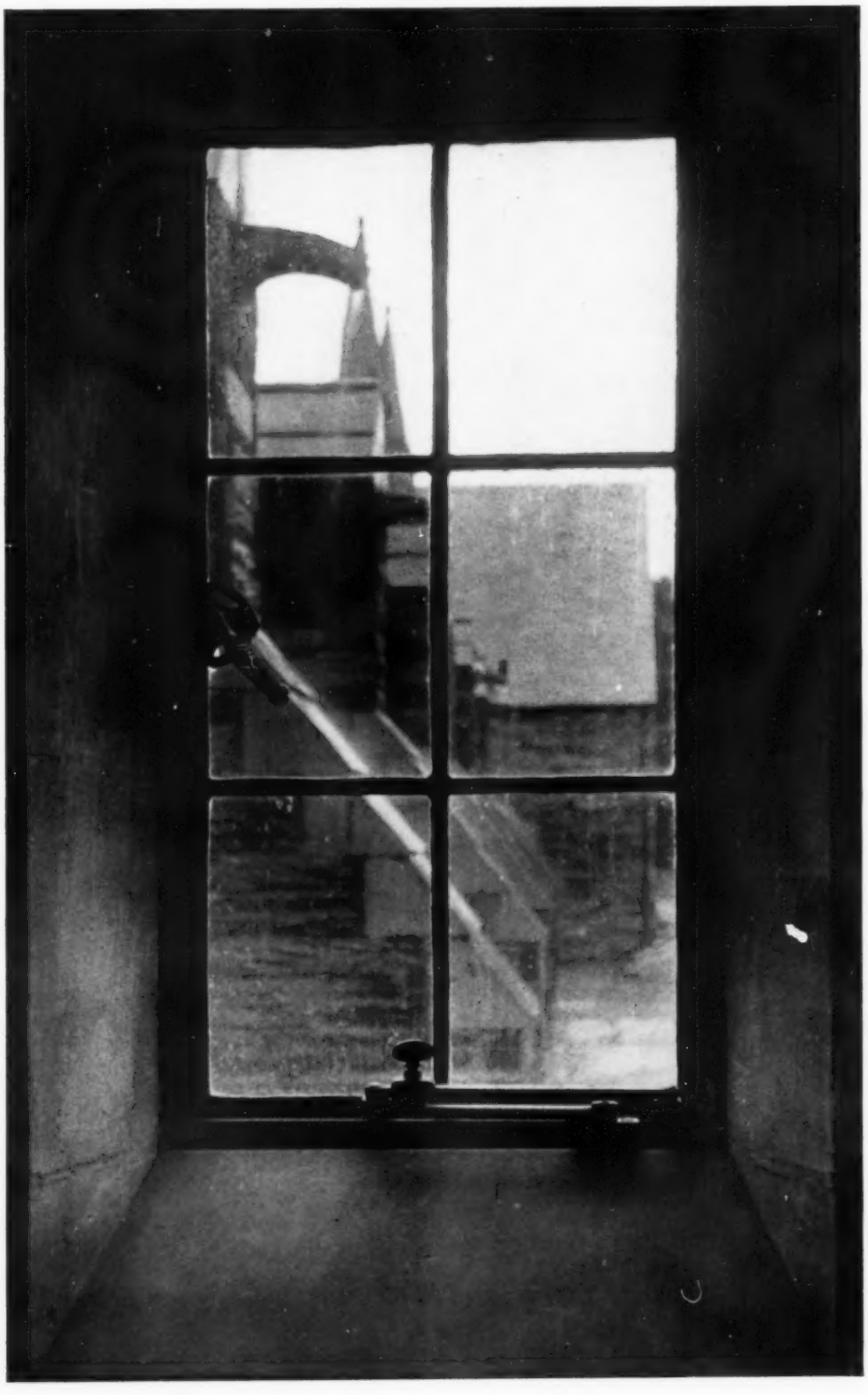
DOOR FROM AUDITORIUM TO MUSIC WALK
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS

Photo, Rittase

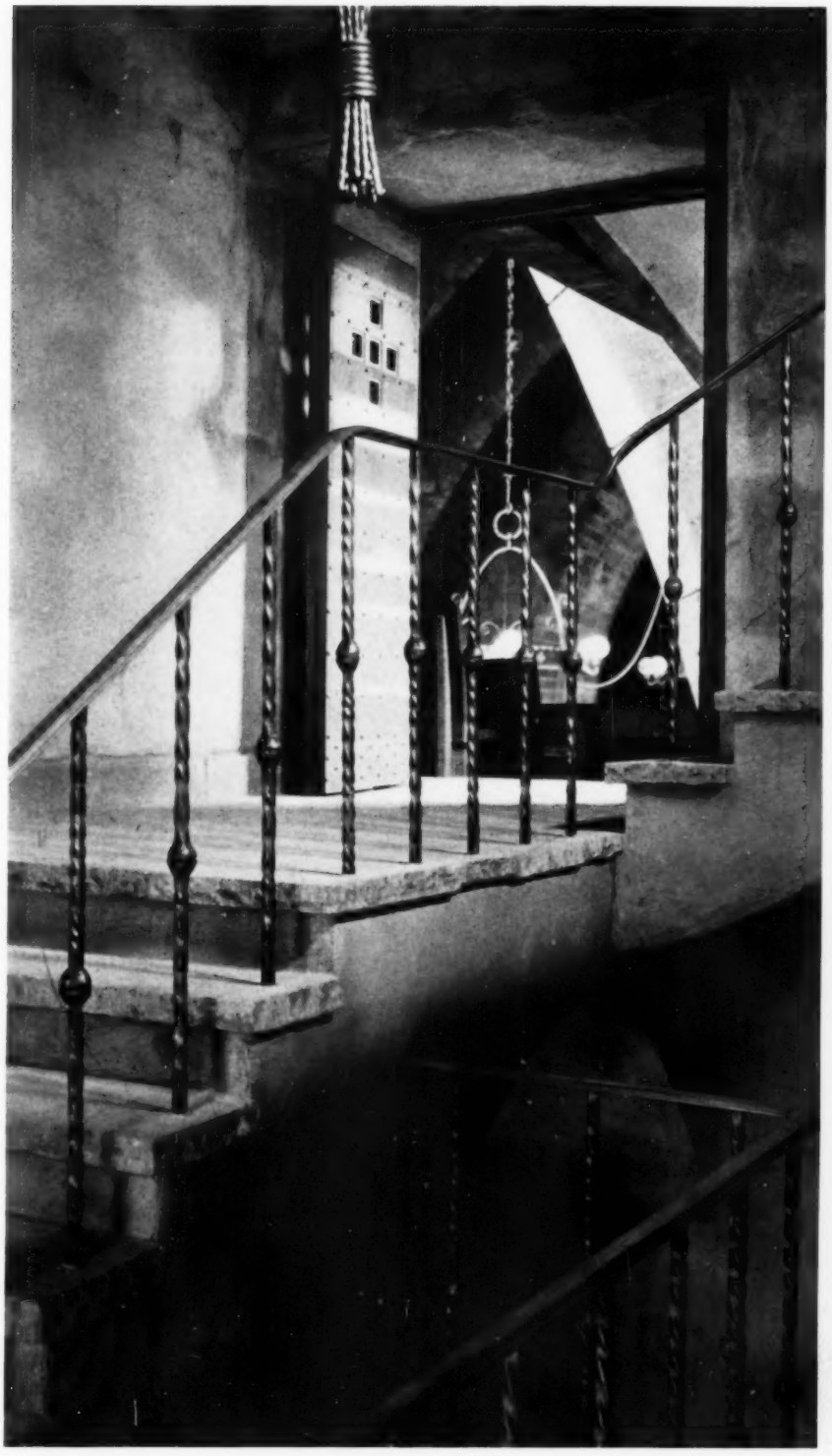
ORCHESTRA PIT AND STAIRS TO STAGE

GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA

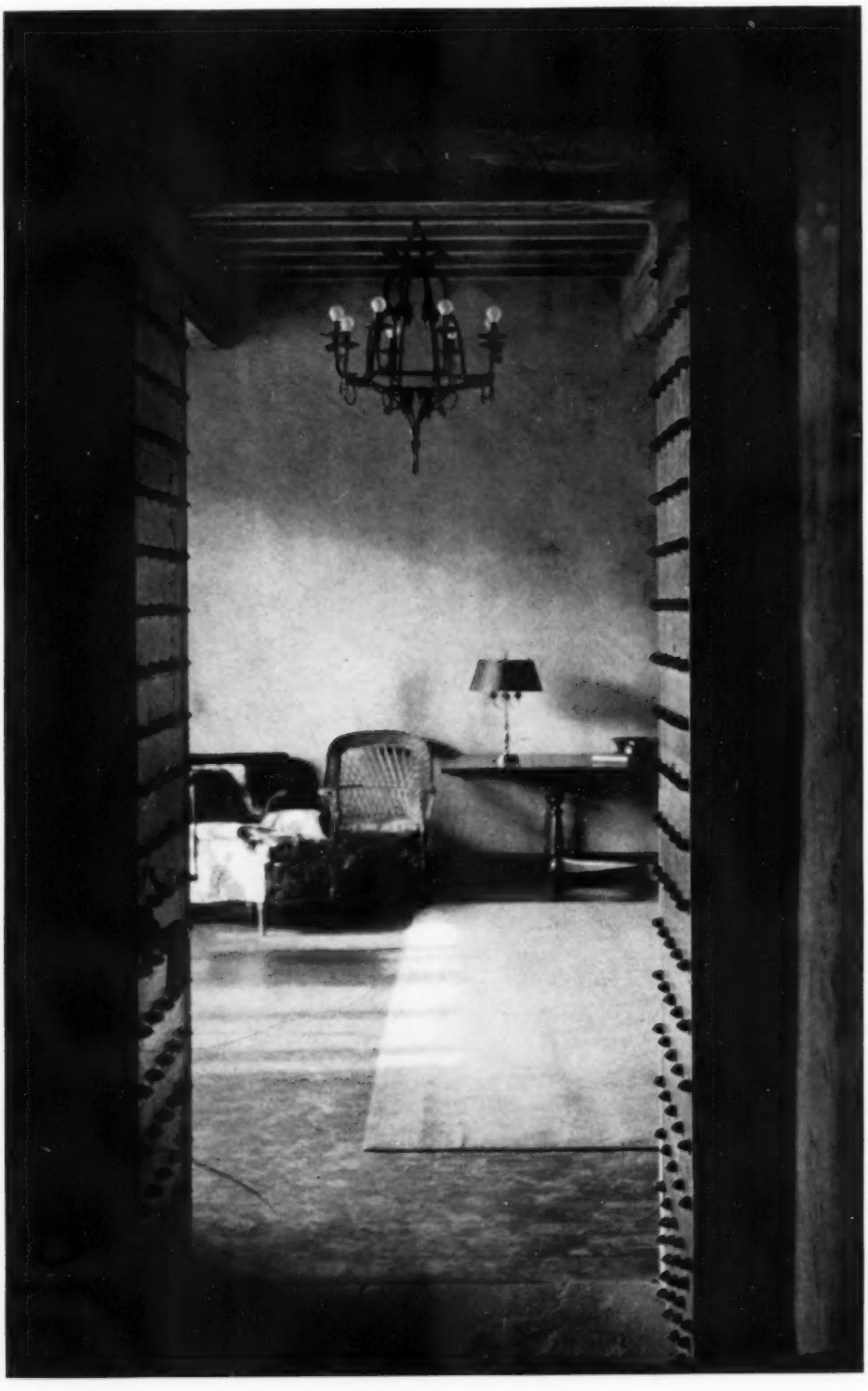
MELLOR & MEIGS, ARCHITECTS



GARGOYLES SEEN THROUGH A WINDOW
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS



STAIRS TO BALCONY
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS



ENTRANCE TO COMMON ROOM
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS

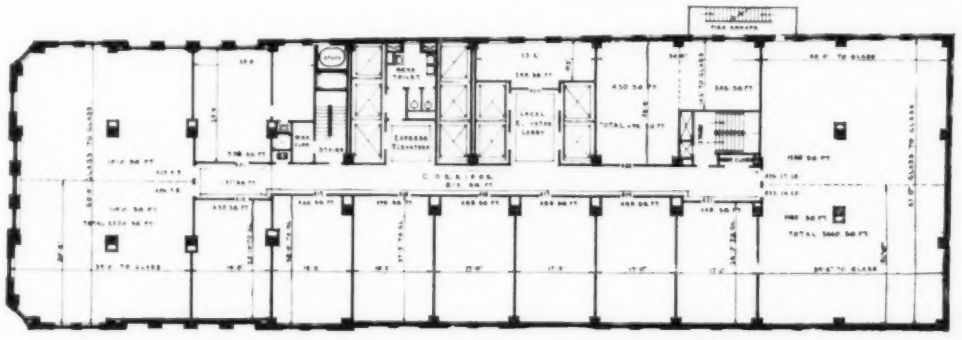
333 NORTH MICHIGAN AVENUE, CHICAGO

HOLABIRD & ROOT, ARCHITECTS

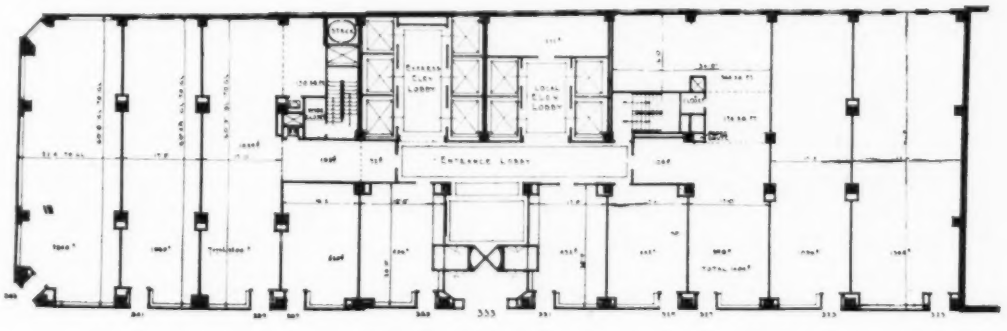
THE OPEN site of the 333 North Michigan Avenue Building gives it a striking prominence which the architects have emphasized by placing a tower on the plaza end. The axial relation of the plot to the bridge opposite and the limited width on Wacker Drive, determined by Michigan Avenue on the west and by Beaubien Court on the east, give a sentinel quality to the structure.

Because of the relatively small area, 62 by 200 feet, economy of space demanded even greater consideration than is usual for buildings of its type; therefore the entrance and the elevator lobbies were placed in the center of the length to permit the most flexible and economical subdivisions with a minimum amount of corridor space. And because of the possibility of an eastern addition the elevators were located on that boundary in order that they might be continued in the new part.

The lot area is 12,300 square feet with the renting area of a typical floor ranging from 9,400 to 9,700 and comprising slightly over 77 per cent of the whole. The total renting area is 273,600 square feet. The tower occupies one-fourth of the ground. Column spacing is approximately 17 feet throughout, allowing subdivided offices of eight feet in width. There are four local elevators running to the twelfth floor and



TYPICAL FLOOR PLAN (LOWER ELEVEN FLOORS)



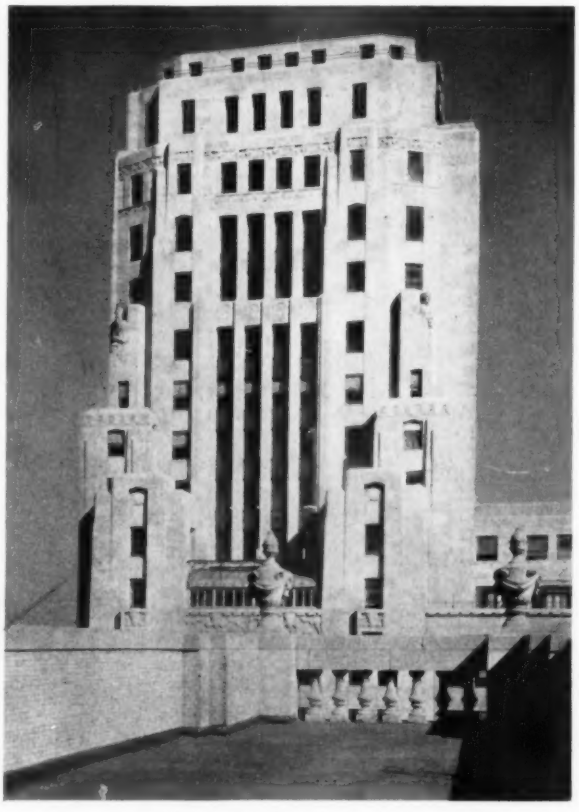
PLAN OF ENTRANCE FLOOR

BUILDING AT 333 NORTH MICHIGAN AVENUE, CHICAGO

HOLABIRD & ROCHE (NOW HOLABIRD & ROOT), ARCHITECTS

six express elevators to higher floors.

The major block of the building rises twenty-four stories above the upper Michigan Avenue level (260 feet) and the tower extends eleven stories higher, reaching a total of 426 feet. The first three stories are devoted to shops and the remainder to offices. On the lower level of the avenue is a storage floor serving the shops above. Under this is a large undivided floor for club purposes and a two-story boiler room, forming a total depth of 43 feet below the upper avenue level. The first story height is 13 feet 6 inches, the second is 11 feet 6 inches, and the third, 11 feet 2 inches. Typical stories are 10 feet 10 inches floor to floor.



DETAIL, UPPER PART OF BUILDING
333 NORTH MICHIGAN AVENUE, CHICAGO
HOLABIRD & ROOT, ARCHITECTS

Oriental Granite from Rockville, Minnesota, was used as a facing for the base of the structure; the colors are black, purple, mauve, gray, and pink. The show windows and outer frames of the main entrance are constructed of cast iron. Bedford Indiana Limestone of a buff color and with a shot-sawn finish is used for the remainder of the exterior except where terra cotta spandrels fill certain spaces between windows and where portions of the eastern side are faced with brick.

The carved stone work is sculptured in a modern manner, flat, sharply incised, and cut back of the wall face with the crisp, chiseled lines throwing shadows which can be distinctly seen from a distance. In the carvings at the sixth floor the growth and history of Chicago are symbolized.

In the entrance and elevator lobbies are floors patterned in Traitel Terrazzo, and the entire walls are covered with large slabs of Greek Verde Antico. Bronze is employed for the frames of the show windows, elevator doors, grilles, mail box and chute, stair railings, mouldings at the cornice line and at intersections of corners, and for the panelled grilles on the ceilings, which are of ornamental plaster. The typical corridors have the same flooring as the main lobby, are wainscoted to a height of 7 feet 2 inches with Vermont Colonial Marble, and have a base of Vermont Cipilon Marble. Their ceilings are of plaster with coved cornices. Doors, transoms and trim are of mahogany. The office floors are finished with a smooth cement to receive covering materials chosen by the lessees.

The design problem presented in this building was not radically different from that of many others; it was to be merely another rentable office building. Therefore no especially original composition resulted. However, this handling of the exterior lines, of the masses, and of the set-backs required by the zoning ordinance, is one more natural interpretation of present-day practical construction.

Photo, Tebbs & Knell

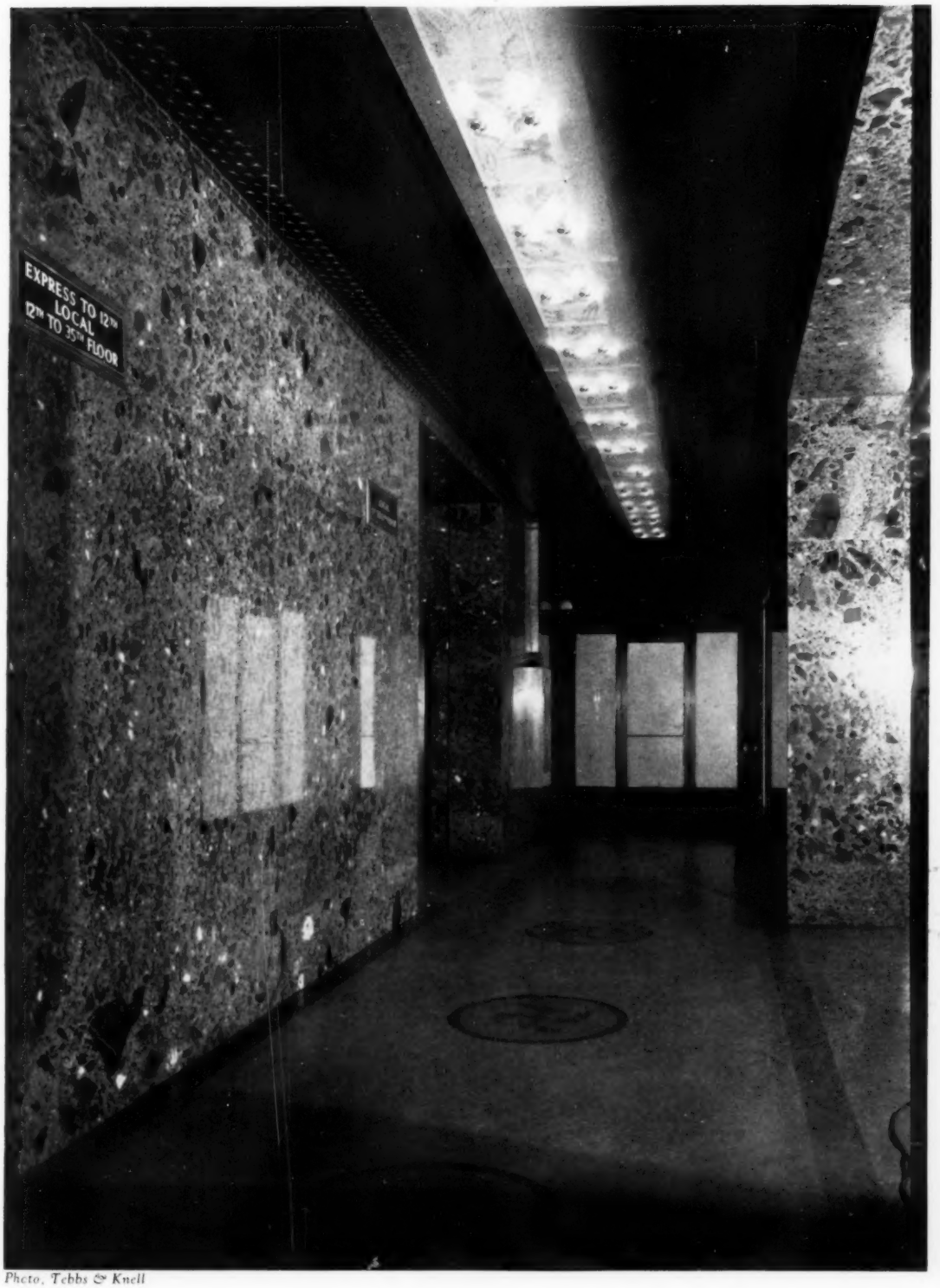
BUILDING AT 333 NORTH MICHIGAN AVENUE, CHICAGO
HOLABIRD & ROCHE (NOW HOLABIRD & ROOT), ARCHITECTS

Photo, Tebbs & Knell

ENTRANCE DETAIL

BUILDING AT 333 NORTH MICHIGAN AVENUE, CHICAGO

HOLABIRD & ROCHE (NOW HOLABIRD & ROOT), ARCHITECTS



Photo, Tebbs & Knell

ENTRANCE CORRIDOR

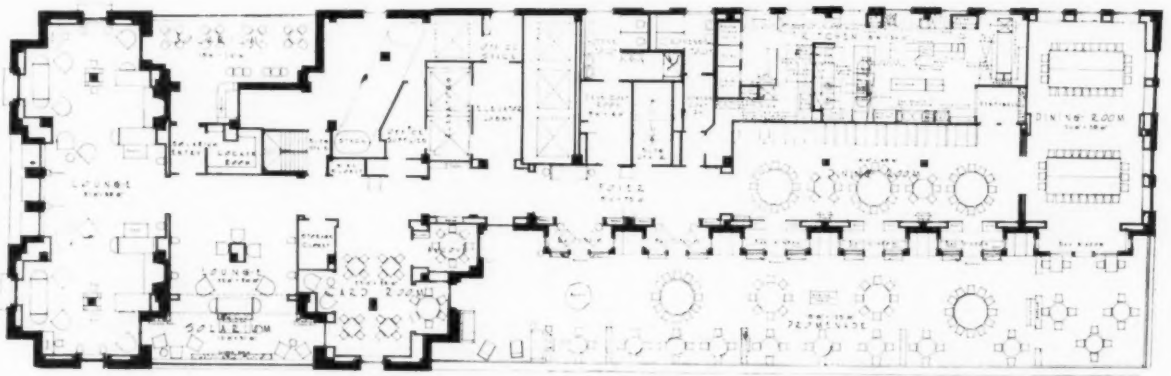
BUILDING AT 333 NORTH MICHIGAN AVENUE, CHICAGO

HOLABIRD & ROCHE (NOW HOLABIRD & ROOT), ARCHITECTS

Photo, Tebbs & Knell

CONFERENCE ROOM IN OFFICE OF MESSRS. HOLABIRD & ROOT
BUILDING AT 333 NORTH MICHIGAN AVENUE, CHICAGO
HOLABIRD & ROCHE (NOW HOLABIRD & ROOT), ARCHITECTS

THE TAVERN CLUB
AT
333 NORTH MICHIGAN AVENUE, CHICAGO



PLAN OF TAVERN CLUB ON TWENTY-FIFTH FLOOR OF BUILDING

Photo, Fuermann

SMOKING ROOM

CARD ROOM

TAVERN CLUB, 333 NORTH MICHIGAN AVENUE, CHICAGO
HOLABIRD & ROCHE (NOW HOLABIRD & ROOT), ARCHITECTS
WINOLD REISS, INTERIOR ARCHITECT AND DESIGNER

Photo, Fuermann

THE DINING ROOM

TAVERN CLUB, 333 NORTH MICHIGAN AVENUE, CHICAGO

HOLABIRD & ROOT, ARCHITECTS; WINOLD REISS, INTERIOR ARCHITECT AND DESIGNER

Photo, Fuermann

LOUNGE AND READING ROOM

TAVERN CLUB, 333 NORTH MICHIGAN AVENUE, CHICAGO

HOLABIRD & ROOT, ARCHITECTS; WINOLD REISS, INTERIOR ARCHITECT AND DESIGNER

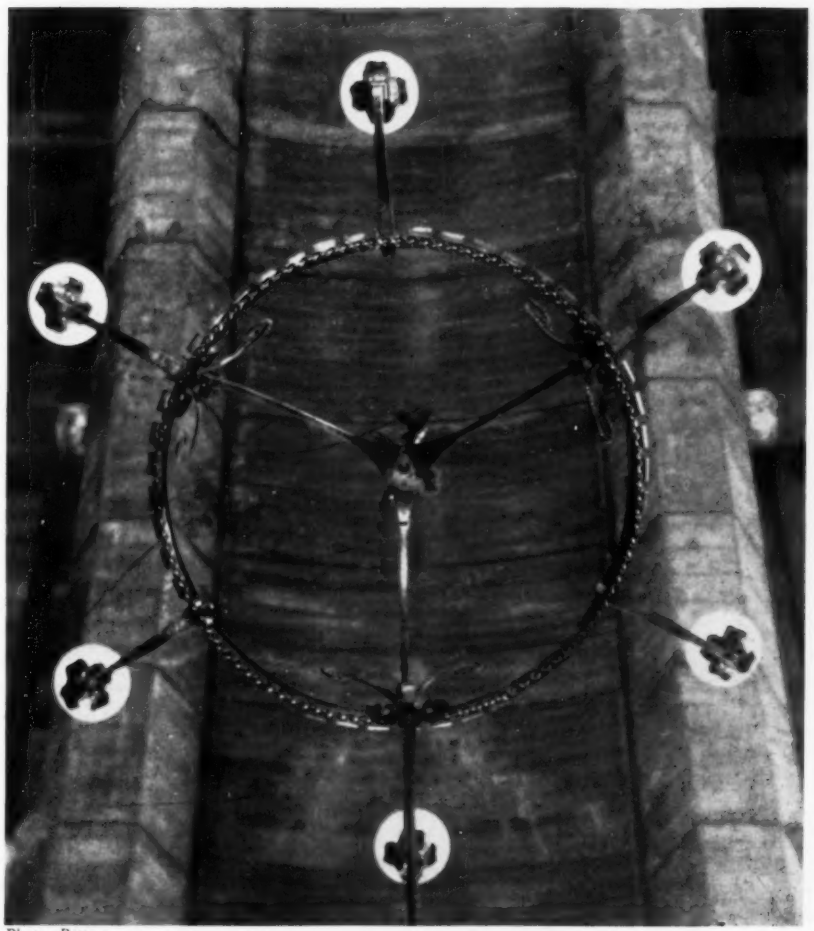
Photo, Tebbs & Knell

MANTEL IN LOUNGE

TAVERN CLUB, 333 NORTH MICHIGAN AVENUE, CHICAGO

HOLABIRD & ROOT, ARCHITECTS; WINOLD REISS, INTERIOR ARCHITECT AND DESIGNER

ALLIED ARTS
AND
CRAFTSMANSHIP

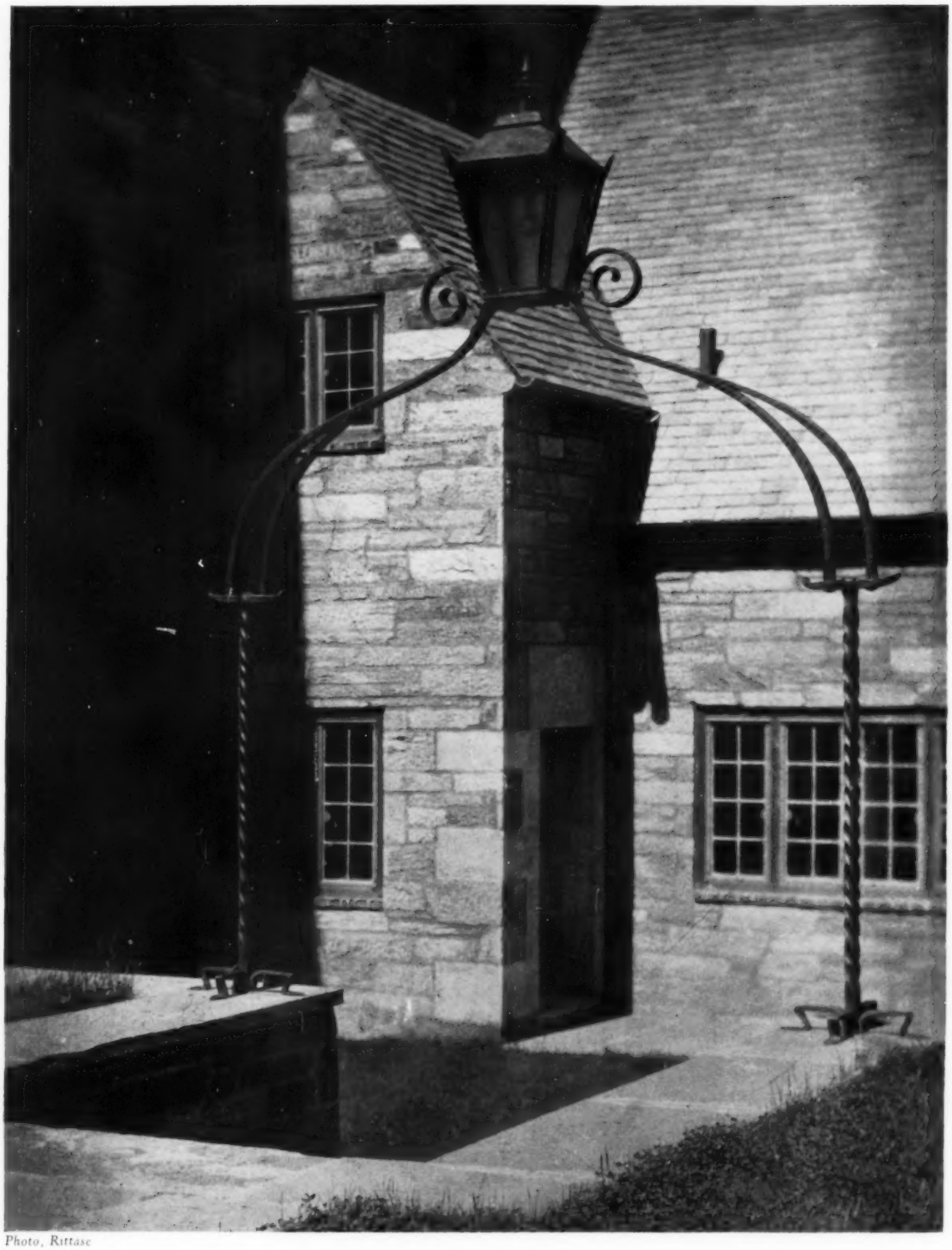


Photo, Rittase

MAIN CHANDELIER FROM BELOW
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS
SAMUEL YELLIN, IRON CRAFTSMAN

Featuring

GOODHART HALL, BRYN MAWR COLLEGE

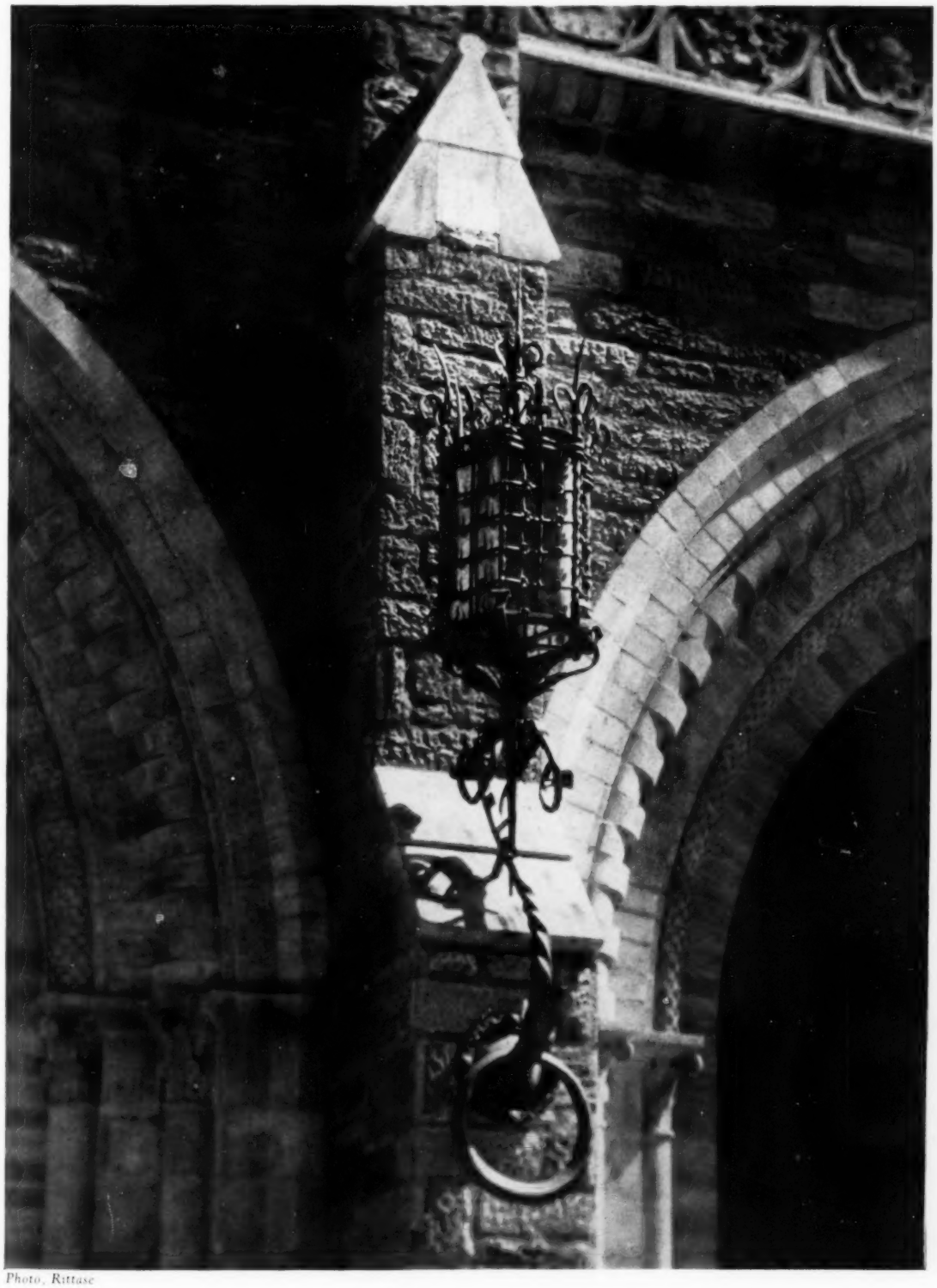


Photo, Rittase

LAMP FOR SUNKEN GARDEN

GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA

MELLOR & MEIGS, ARCHITECTS; SAMUEL YELLIN, IRON CRAFTSMAN



Photo, Rittase

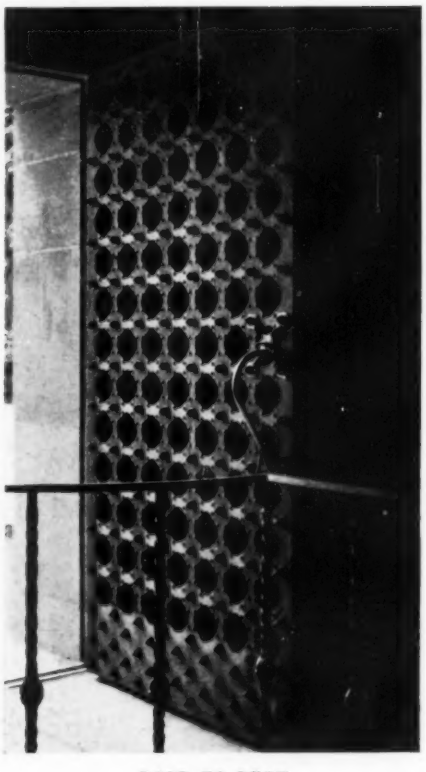
MAIN ENTRANCE LANTERN

GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA

MELLOR & MEIGS, ARCHITECTS; SAMUEL YELLIN, IRON CRAFTSMAN

HINGE AND HANDLE FOR FOYER DOOR

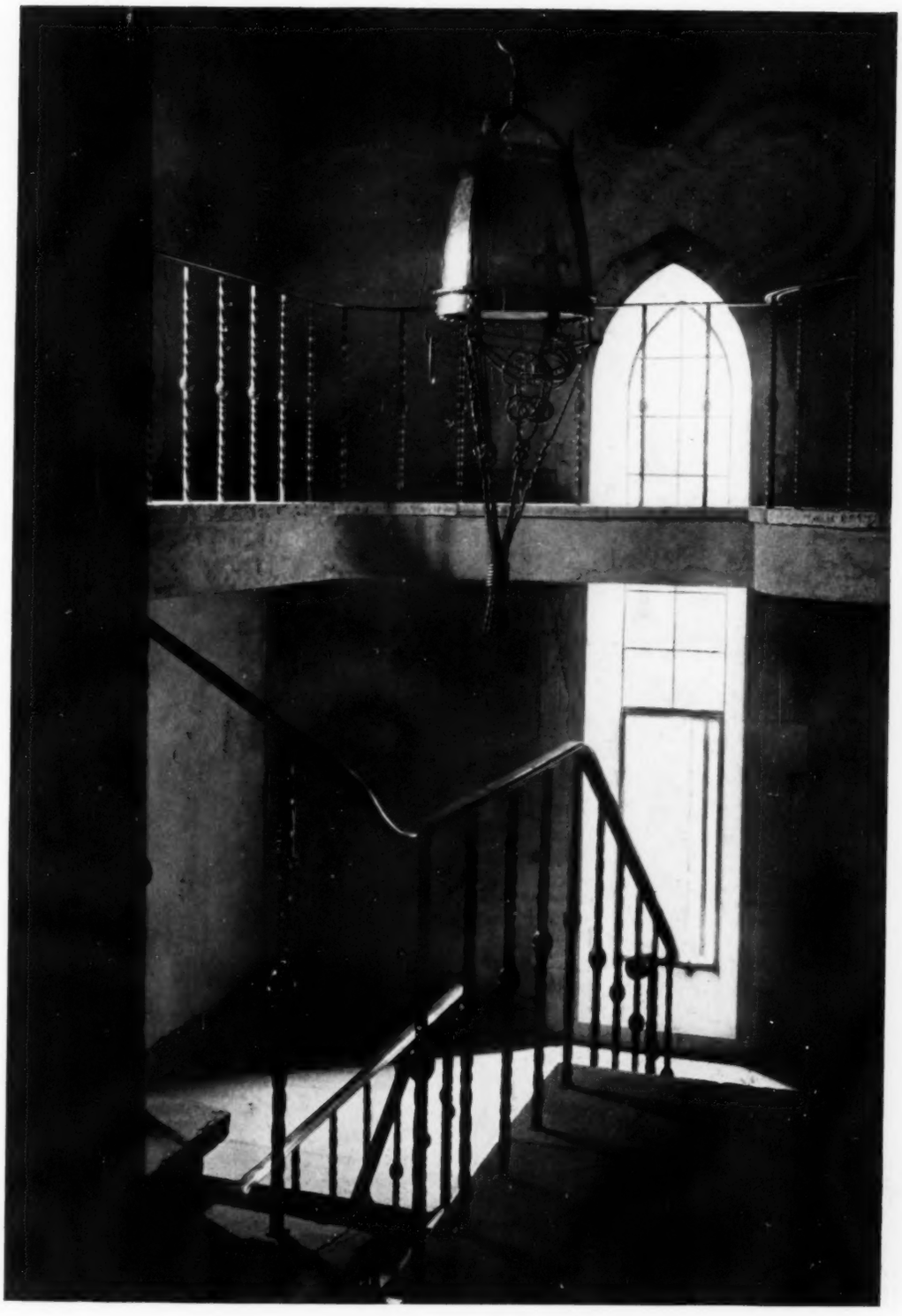
SIDE BRACKET IN AUDITORIUM



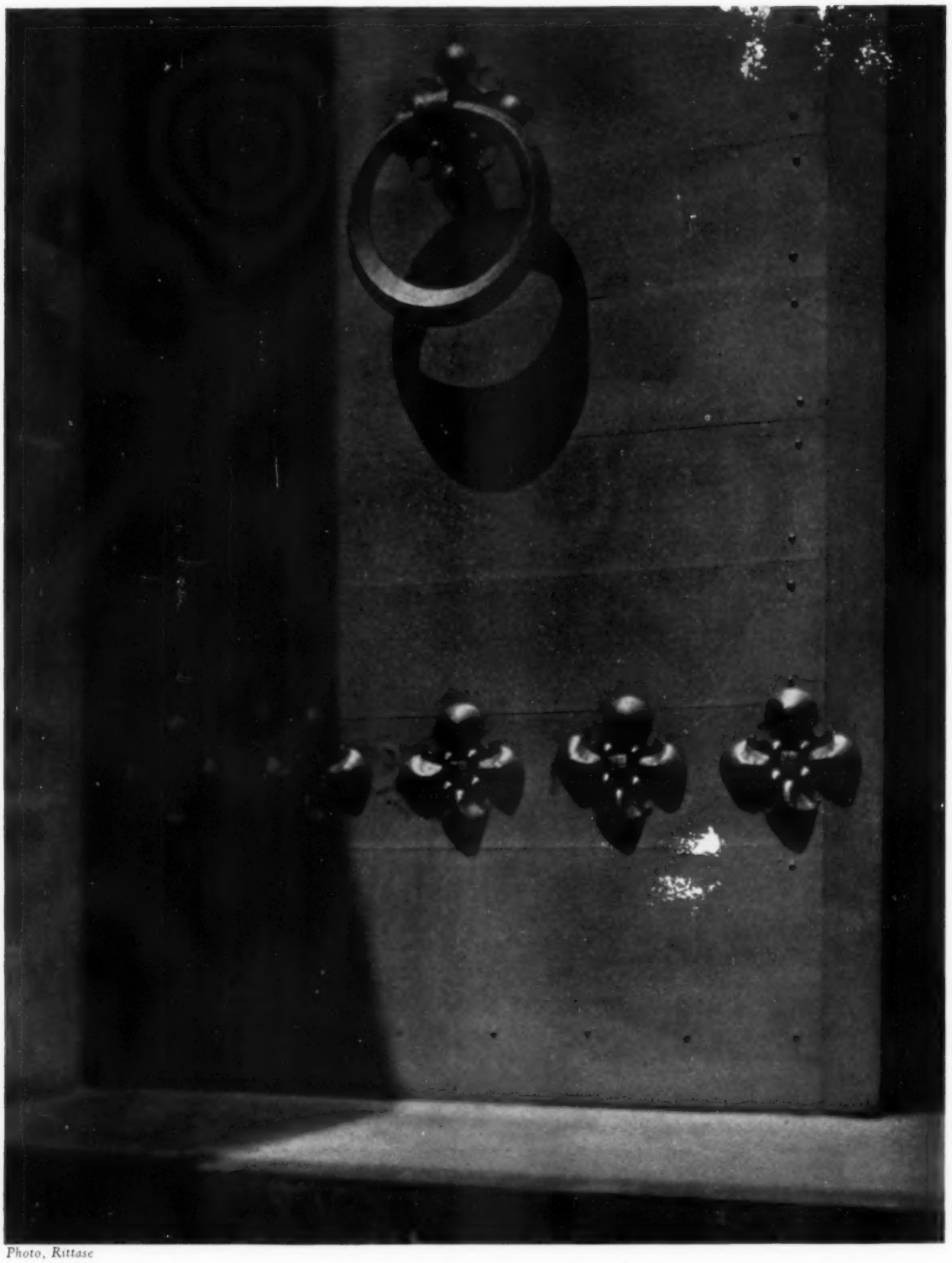
DOOR TO DECK

GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA

MELLOR & MEIGS, ARCHITECTS; SAMUEL YELLIN, IRON CRAFTSMAN



ORNAMENTAL IRONWORK
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS; SAMUEL YELLIN, IRON CRAFTSMAN



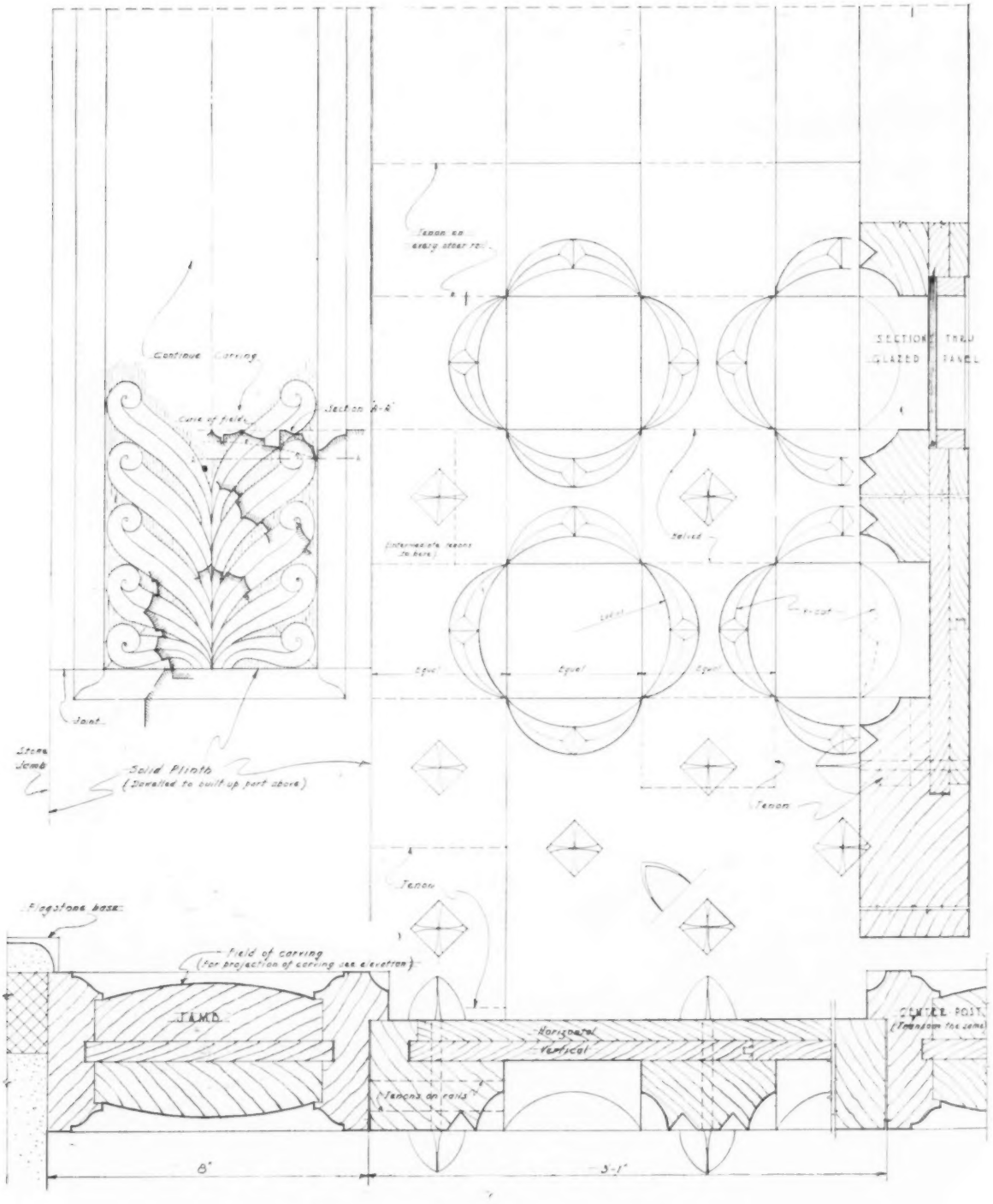
Photo, Rittase

RING AND BOSSES ON SCENERY DOOR

GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA

MELLOR & MEIGS, ARCHITECTS; SAMUEL YELLIN, IRON CRAFTSMAN

WOOD AND IRON DOOR
GOODHART HALL, BRYN MAWR COLLEGE, PENNSYLVANIA
MELLOR & MEIGS, ARCHITECTS; SAMUEL YELLIN, IRON CRAFTSMAN



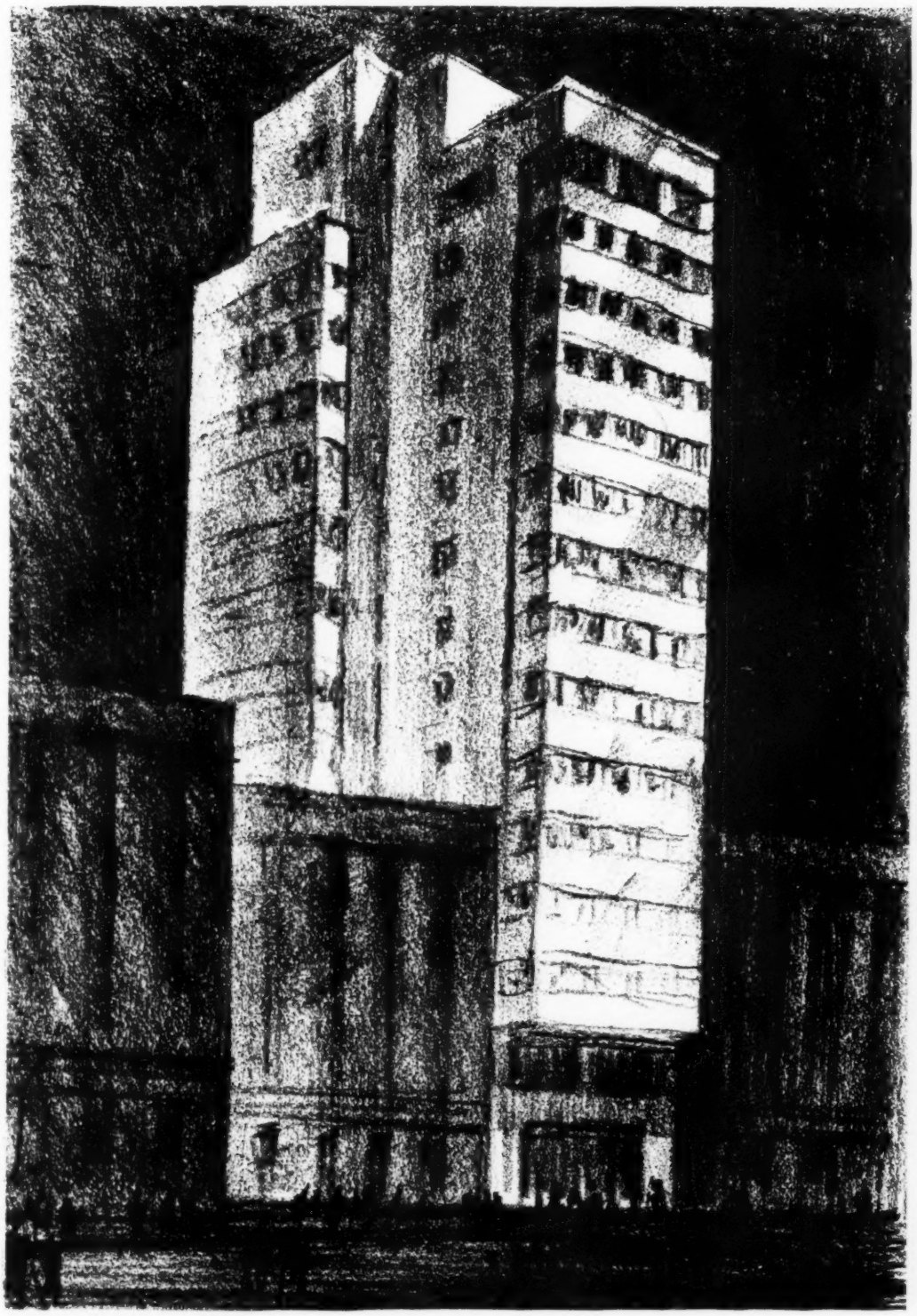
· DETAIL OF · MAIN · ENTRANCE · DOORS ·

· MARJORIE · WALTER · GOODHART · HALL ·

· BRYN · MAWR · COLLEGE ~ PA

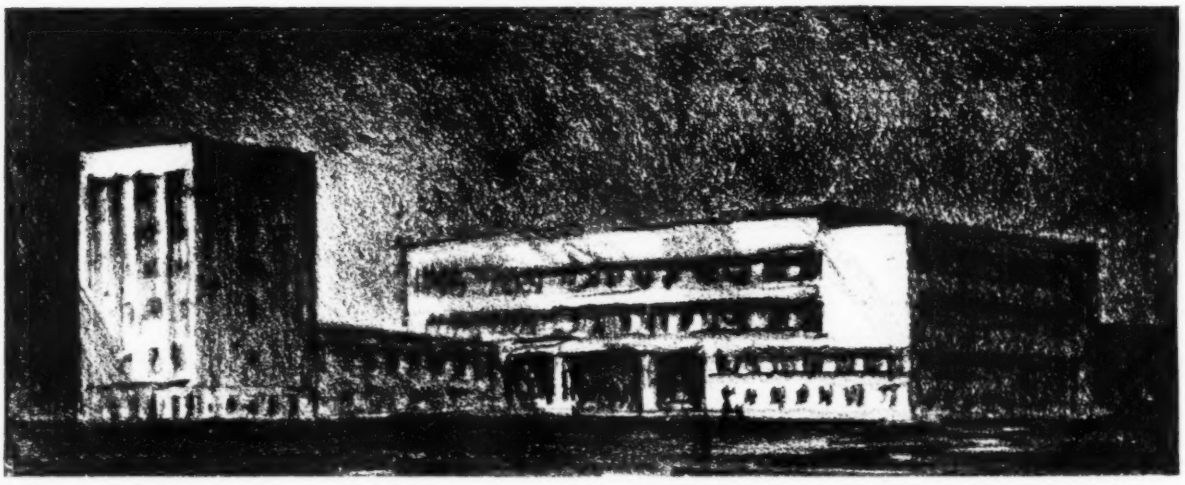
· MELLOR, · MEIGS · & · HOWE ~ ARCH'TS ·

PHILADELPHIA ~ PENNA.



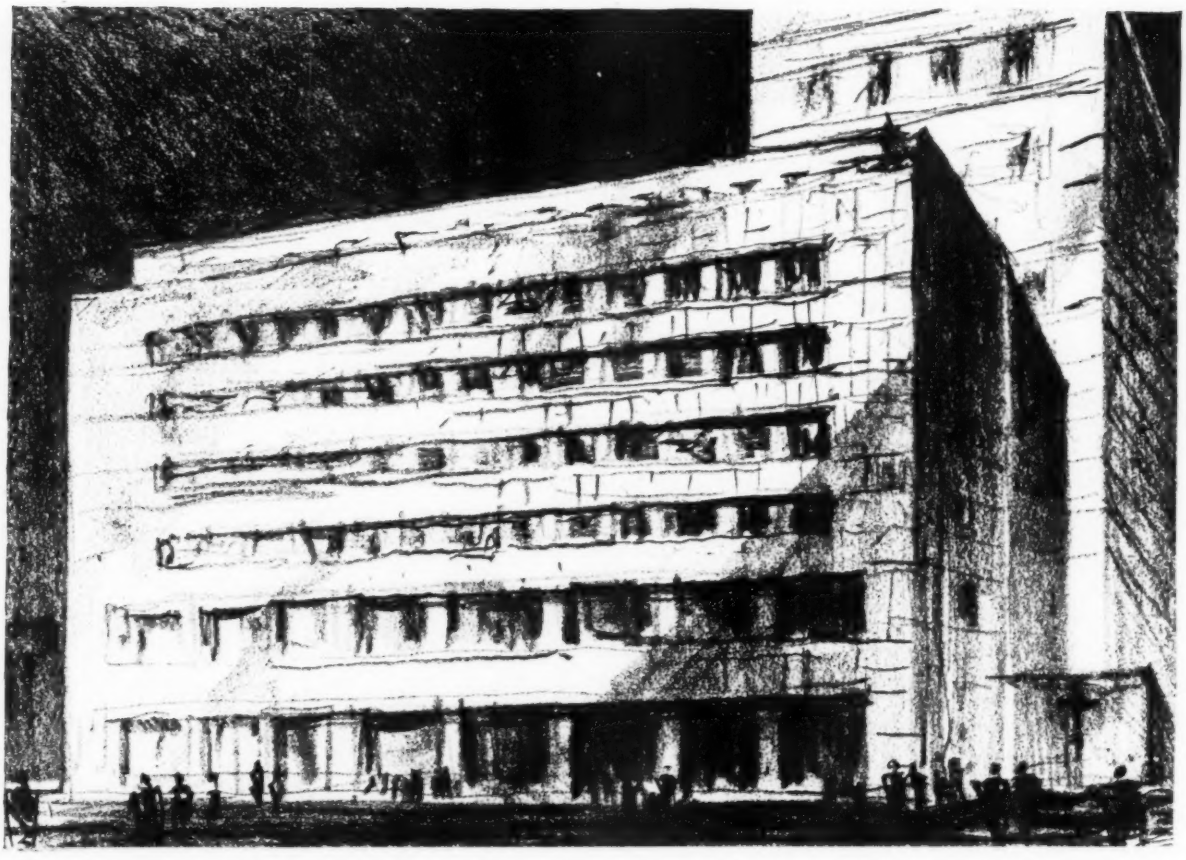
A SEVENTEEN-STORY APARTMENT BUILDING
STUTTGART, GERMANY

Sketch by Francis Keally



A MODERN BUILDING IN DESSAU, GERMANY

CEMENT CONSTRUCTION

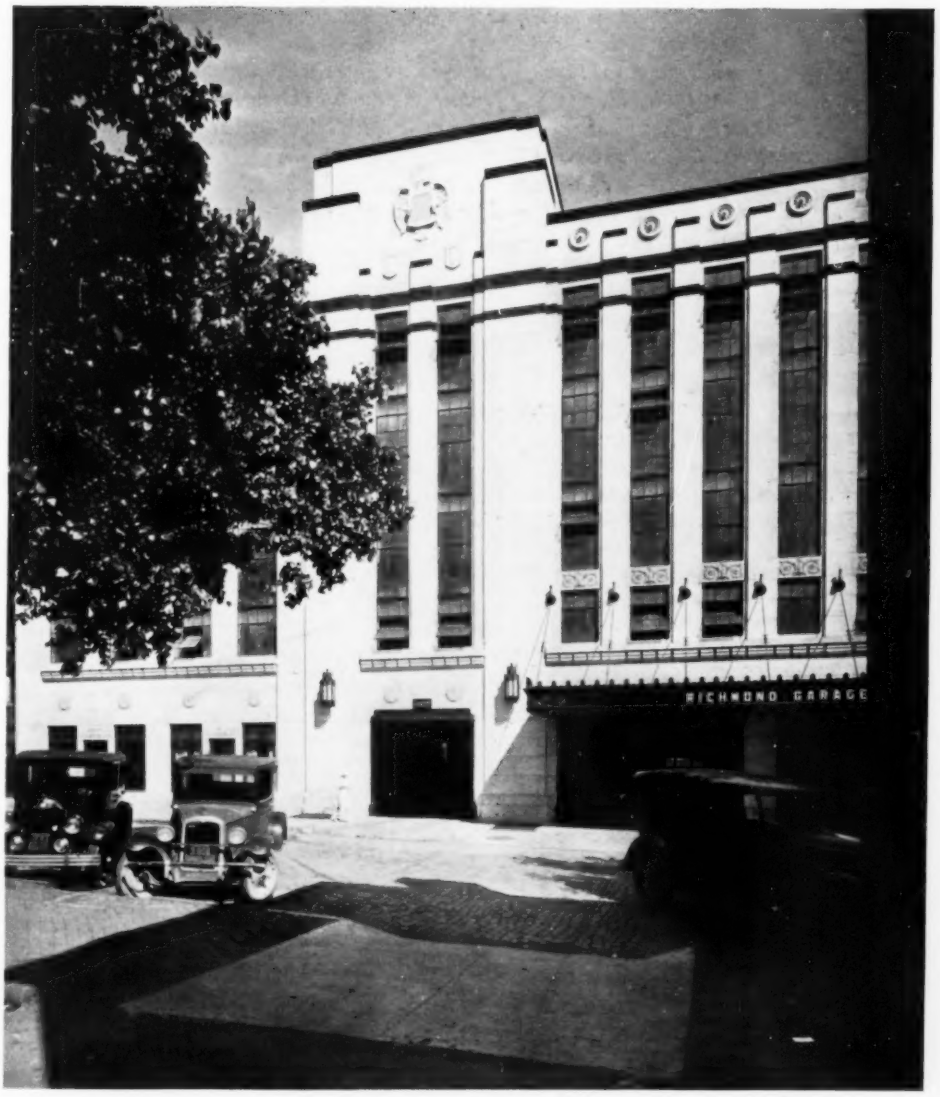


NEW COMMERCIAL BUILDING, STUTTGART, GERMANY

BUILT OF LARGE BLOCKS OF TRAVERTINE

Sketches by Francis Keally

TECHNICAL NEWS AND RESEARCH



RICHMOND GARAGE, RICHMOND, VA. (DOUBLE SPIRAL RAMP)
LEE, SMITH & VANDERVOORT, ARCHITECTS

Featuring
GARAGES

GARAGES

(Standards for Design and Construction)

Compiled by the Editorial Staff of The Architectural Record, with collaboration from E. P. Goodrich, consulting engineer; G. W. Rand, engineer for Ramp Building Corporation; H. L. Woolfenden, mechanical engineer; Horace L. Smith, Jr., engineer Auto Ramps Corporation of Richmond; Arthur Brace, Construction Engineering Department of the Tide Water Oil Co. and others.

The appropriate and characteristic expression for garage design will be attained by architects without conscious effort. Ferro-concrete construction with the demarcation of floor levels, steel sash and the omission of cornice and base will endow the garage with frankness and modernity.

There should be no applied ornament and the surface treatment where concrete is used should be no other than that suggested by the nature of the material.

The garage may well attain a new and distinctly expressive form, indicating its practical function. "Modern architecture of our time seeks to devise form and motives from purpose, construction and materials. If it is to give clear expression to our feelings, it must also be as simple as possible."

COMMERCIAL GARAGES

I. Independent Commercial Garages

(A.) ECONOMIC FACTORS.

The commercial success of the public garage depends upon proper balance between construction cost and efficiency of layout. To aid in determining this relationship and to ascertain other factors which will influence the design, the architect should first make an analysis of the conditions in the district where it is proposed that the garage be built. The "Outline for Garage Survey" indicates the scope of such a study.

The effects on design, of the facts brought out by this survey, are discussed below.

1. Lot Cost in Relation to Building Height. To show a normal profit on the investment, for buildings up to and including 6 stories in height, the lot cost should not exceed cost of building. (This is a rule of thumb and serves only as an approximate basis for analysis.) The relation of lot cost to cost of building may be expressed in the form of an equation in which

L = cost of lot in dollars per square foot.
B = cost of building in dollars per square foot per floor.
X = minimum number of stories for reasonable profit.

For buildings up to and including six stories, the items above when reduced to a formula are

$$\frac{L}{B} = X$$

For buildings in excess of 6 stories in height the following equation is used:

$$\frac{L - (B \times 6)}{B \div 2} + 6 = X$$

To illustrate the use of these formulae, assume cost of lots at $7.50, $12, and $25 per square foot. Also assume a construction cost of $2.50 per square foot of floor. The minimum height of the building will be found as follows:

$\frac{\$7.50}{\$2.50} = X$ Since the value of X is found to be 3, therefore 3 stories is the minimum height for garage with the land cost indicated.

$\frac{\$12}{\$2.50} = X$ The value of X is 4.8. Therefore 5 stories is the minimum height for garage with this land cost.

$\frac{\$25}{\$2.50} = X$ The value of X is 10 which is in excess of the story height that can be figured with this formula. The other equation should therefore be used.

$\frac{\$25 - (\$2.50 \times 6)}{\$2.50 \div 2} + 6 = X$ Value of X is 14, therefore, this is the minimum height for a garage with this land cost.

2. Peak Load. Sixty per cent of total capacity of a garage may arrive within a half hour in the morning or in the evening at theatre time. Speed in handling cars as they enter the garage during the rush period is of the utmost importance. (A delay of five or ten minutes may cause the client to use another garage (possibly less centrally located) provided the additional walking time is less than the waiting time at the garage with inadequate arrangement and facilities.)

The first floor checking and the interfloor method of travel (ramp or elevator) must be capable of handling the probable peak, as shown in survey, without delay.

A one-way ramp system with easy grade and turns will care for 20 to 30 cars a minute. An elevator of average speed will complete an up and down trip in

GARAGE SURVEY*

This analysis of an architectural problem should be made by the architect in order to determine those economic factors that govern garage design in a specific locality. This study should determine the type of building, number of stories, and character of design.

Cost of Land per Square Foot $ ..... Building Cost per Square Foot $ .....

TYPE OF STORAGE	PROBABLE AVERAGE NUMBER CARS PER DAY				RENTAL RATE	DRIVEN BY		CLASS OF RENTALS		
	Day	Night	Peak Load ½ Hour Period	During ½ Hour Morning Peak ..A.M. to ..A.M.		Owner	Chauffeur	Minimum	Average	Luxury
a. Monthly day storage from offices and stores.										
b. Monthly twenty-four hour storage from apartments and permanent residents in hotels, apartment houses and private residents.										
c. Monthly night storage of salesmen's cars, commercial cars and trucks.										
d. Transient day storage from stores, office buildings, hotels, lunch clubs and theatres.										
e. Transient evening storage from hotels, theatres and public halls.										
f. Overnight storage from hotels and commuters.										
g. Dead storage in off-season. (*Trucks not included in this study.)										
Totals										

NOTE: Many parking garages have a twenty-four hour turnover of from two to four times the total capacity of the garage, while subsidized garages having free parking space will sometimes have a turnover of from six to eight times their total capacity.

from one to three minutes, depending on height of building, method of parking, etc.

3. Number of Chauffeur-driven Cars. It is now necessary in large city garages to provide a lounging room for chauffeurs, equipped with games and with reading tables. The number of chauffeur-driven cars will indicate the size and character of chauffeur quarters.

A call system should be installed in waiting rooms and parking floors in order that chauffeurs may receive communications from owners.

4. Class of Rentals. The survey should indicate whether the minimum rental with some slight inconvenience will be preferable, in the client's opinion, to average rental with greater convenience, or higher rental with luxury features. The class of clients catered to will influence:

a. The Maximum Height of Garage in which a ramp system may be profitably operated. For example, two ten-story ramp garages were erected in different districts in Chicago. In both cases, for owner-driven cars, the rent on the tenth floor was $11 per month, as compared with $22 on the second floor. In one district the upper floors rented quickly on account of the lower rent-paying ability of clients. In the other district, however, clients preferred lower floors at the higher rate.

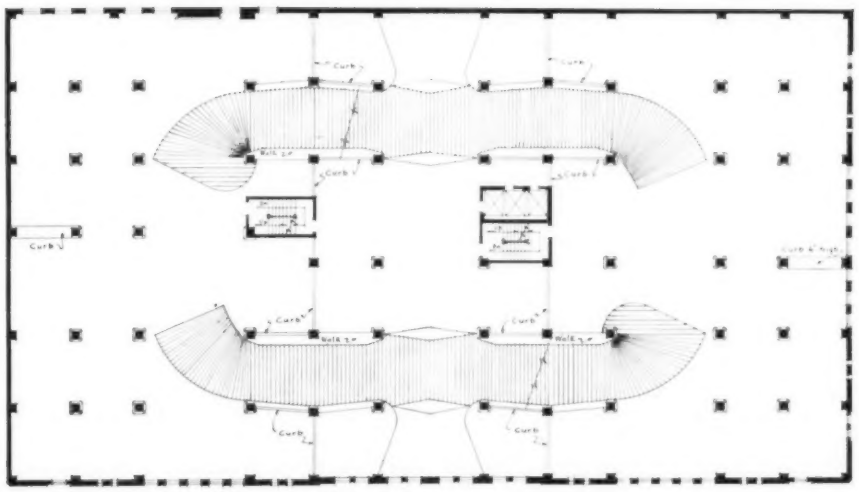
b. The Choice of Ramp Systems. Interfloor travel systems separated from the parking aisles, such as the elliptical system in the Commodore-Biltmore Garage, New York City, and in the Fisher Building, Detroit, require more space than does the *d'Humy* staggered floor ramp system. The use of the former may be justified where low rents are of minor importance. In the double spiral ramp system of Richmond, the entire separation of ramp and parking aisles permits greater safety, speed and convenience of interfloor travel and lessens the distance to be traveled by at least 50 per cent as compared with straight or staggered floor ramps.

c. The Width of Parking Space. This should be 6 feet 9 inches wide for average rental, and 7 feet for dependent garages providing free short time parking. Size of columns on lowest floors may make it advisable to reduce this width, but in no case should parking spaces be less than 6 feet 8 inches. Width in excess of 7 feet is a luxury and should not be considered unless there is indication that patrons will be willing to pay for such additional space.

d. Depth of Parking Space. A 15 foot deep parking space and 20 foot aisle are sufficient for most cars, but for the more wealthy clientèle a deeper space should be provided, at least on some floors.

e. Enclosed Stalls. Completely enclosed, individ-

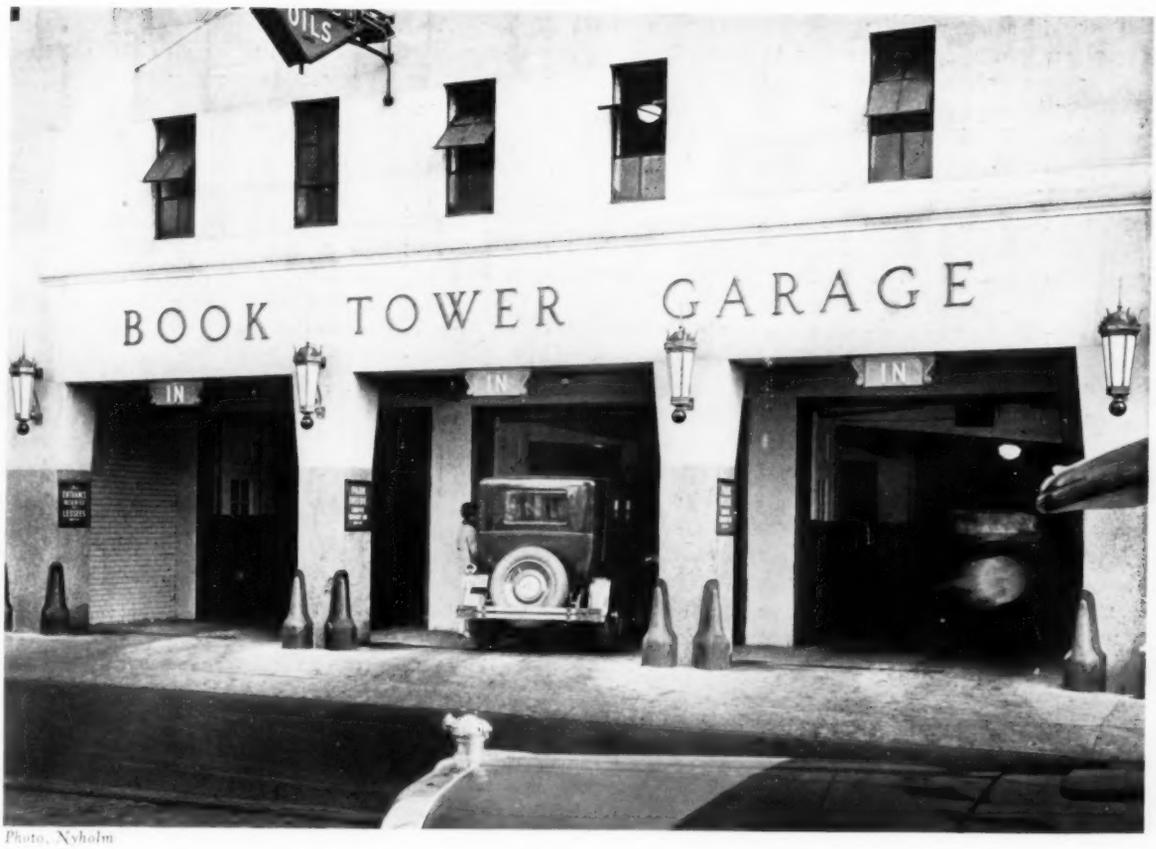
Photo, Nyholm



·TYPICAL·FLOOR·PLAN·

BOOK TOWER GARAGE, DETROIT (d'HUMY RAMP)

LOUIS KAMPER, INC., ARCHITECTS



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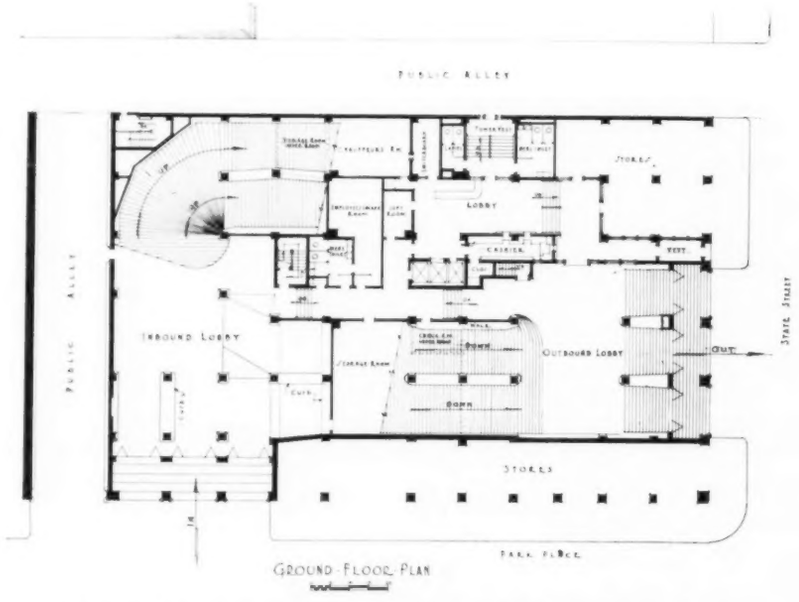


GROUND FLOOR PLAN

ENTRANCE TO BOOK TOWER GARAGE, DETROIT

LOUIS KAMPER, INC., ARCHITECTS

ual parking stalls may be used when catering to clients willing to pay for the utmost convenience.

5. Competition. Consideration should be given to present and future competition. Existing garages in the neighborhood should be studied as to rates, service, class of convenience, types of chauffeur quarters, etc. Future competition should be considered from the following angles: Is there cheaper land in the same district? May a higher building in this neighborhood give lower rent? May lower cost buildings be erected? May more efficient and convenient buildings be subsequently erected? May free or subsidized parking be furnished by stores, office buildings, or city?

Considering future competition it will probably be found advisable to erect a building of lowest cost compatible with efficiency and convenience even though a more elaborately appointed type would produce a good profit at the time of erection.

Because the parking garage business is still in its infancy, commercial garages must necessarily be extremely efficient from the economic standpoint if they are to compete with future buildings of improved character and with subsidized garages which will rapidly increase in number within the next few years.

(B.) PLANNING FACTORS.

The aim of good planning is maximum parking compatible with efficient interfloor travel.

1. Floors. a. Typical Parking Floor. In planning parking floors, it is well to start with a sketch scheme giving the maximum number of parking spaces possible, ignoring elevators, ramps, and service rooms. The essential structural features should then be added so as to interfere as little as possible with car spacing.

(1) Single and Double Parking. The ideal car storage plan requires that every car space should have frontage on an unobstructed aisle. There are, however, conditions which make it advisable to introduce double parking, that is, one row of cars standing directly behind another row. The necessity for doing this is dictated by the size and proportions of some building plots. Double parking should never be greater than 25% of the capacity of any floor and when possible it should be cut down to 15% or less.

(2) Parking Space. (a) Table of car sizes. (Ramp Building Corporation.)

(b) 6 feet 9 inches width per car is sufficient parking width under average conditions. Width in excess

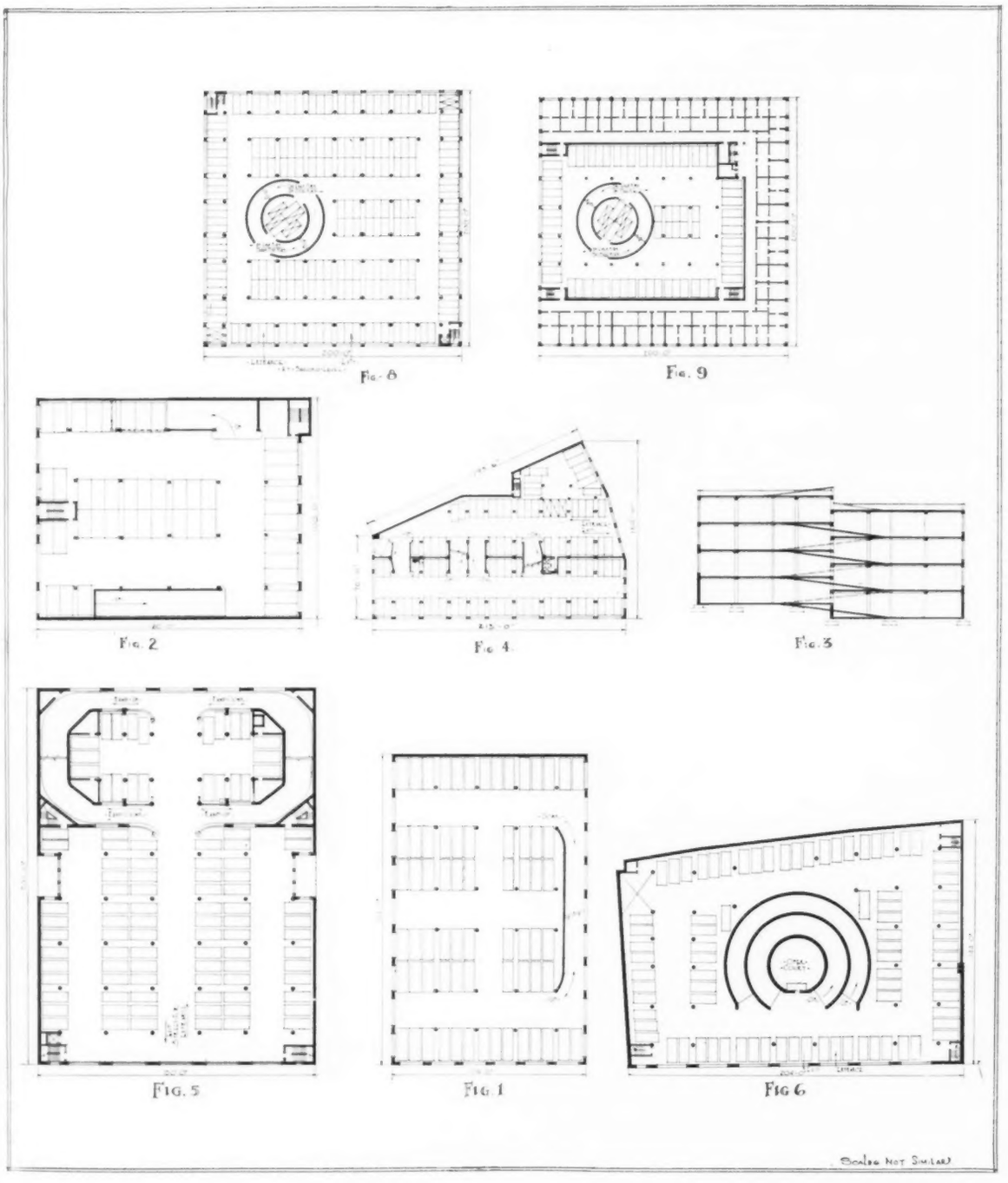
MOTOR CAR DIMENSIONS (1929)

	(L.)	(W.B.)	(F.)	(R.)	(W.)	(H.)	(C.)	(T.D.)
Chevrolet	13′– 2½″	106½″	22″	30″	5′– 7″	6′– 0″	12″	43′–0″
Graham-Paige	14′– 0″	111″	26″	31″	5′– 6″	6′– 0″	9¼″	42′–0″
Ford	12′–11¼″	103½″	21¼″	30½″	5′– 7″	6′– 0¼″	12⅜″	34′–0″
Erskine	13′– 5½″	109″	22½″	30″	5′– 5″	5′– 8 9/16″	11″	36′–0″
Pontiac	13′– 6⅝″	110″	23⅝″	29″	5′– 6½″	5′– 8¾″	.....	38′–8″
Oldsmobile	14′– 0″	113″	20″	35″	5′– 9″	5′–10″	12¼″	41′–6″
Dodge	14′– 0⅞″	110″	24¼″	34⅝″	5′– 5½″	5′–11″	10¾″	47′–0″
Nash	14′– 1″	112″	25″	32″	5′– 7″	5′–10″	12″	40′–0″
Hupmobile	14′– 5⅝″	114″	23⅛″	36½″	5′– 7″	6′– 4″	10¼″	40′–0″
Oakland	14′– 5¾″	117″	24¾″	32″	5′– 7″	5′–10″	.....	40′–0″
LaSalle	14′– 7″	125″	23¾″	26¼″	5′–11″	5′–11″	12¼″	41′–4″
Studebaker	14′– 7½″	113″	25″	37½″	5′– 9″	6′– 0¼″	11″	41′–0″
Buick	14′– 8¼″	115¾″	25″	35½″	5′–10 7/16″	6′– 2⅞″	13″	39′–4″
Marmon	14′–10″	114″	24⅝″	39⅝″	5′– 8¼″	5′– 9½″	11″	40′–0″
Hupmobile	14′–10″	120″	22½″	35½″	5′– 7″	6′– 4″	10¾″	47′–0″
Auburn	14′–11 11/16″	120⅜″	24¼″	35 5/16″	5′–10″	5′–10½″	9⅞″	40′–0″
Dodge	15′– 2⅜″	120″	23⅞″	38½″	5′–11″	6′– 1″	11¼″	51′–0″
LaSalle	15′– 4″	134″	23¾″	26¼″	5′–11″	5′–11″	12¼″	41′–4″
Marmon	15′– 4″	120″	24⅝″	39⅝″	5′– 8¼″	5′–10¼″	11″	42′–0″
Buick	15′– 6¾″	120¾″	25½″	40½″	5′–11 7/16″	6′– 3 5/16″	12¾″	45′–2″
Franklin	15′– 8″	128″	27″	33″	5′– 8″	6′– 2″	11″	41′–6″
Packard	15′– 9 9/16″	126½″	24 7/16″	38⅝″	5′– 9⅜″	6′– 2″	10″	44′–0″
Auburn	15′– 9 11/16″	130″	24¼″	35 5/16″	5′–10″	5′–10½″	9⅞″	40′–0″
Pierce Arrow	16′– 0″	130″	27″	35″	5′–10″	6′– 2″	12½″	43′–0″
Graham-Paige	16′– 5½″	135″	25½″	37″	5′– 9½″	6′– 2″	11¼″	49′–2″
Studebaker	16′– 6⅞″	131″	28″	39⅞″	5′– 9″	5′–11 5/16″	10½″	47′–6″
Nash	16′– 7″	130″	27″	42″	5′–10½″	6′– 0″	13½″	50′–0″
Lincoln	16′– 7½″	136″	24″	39½″	5′–10″	6′– 5″	14″	50′–5″
Pierce Arrow	17′– 4″	138″	27″	43″	5′–10″	6′– 8½″	12⅝″	44′–6″
Cadillac	17′– 9¼″	140″	28″	45¼″	6′– 1″	6′– 1½″	12¾″	50′–1″
Packard	17′–11 7/16″	145½″	24 7/16″	45½″	5′–11⅝″	6′– 3½″	10⅝″	52′–8″

NOTE: Information supplied by automobile manufacturers. Where makes are repeated, figures are for smallest and largest models. (L.) length; (W.B.) wheelbase; (F.) distance from center of front hub cap to front extremity; (R.) distance from center of rear hub cap to rear extremity; (W.) width; (H.) height; (C.) distance from ground to underside of running board; (T.D.) turning diameter (diameter of smallest walled-in circle in which the car will make a complete turn.)

Comparison of the 1929 figures with those of 1928 shows an increase in wheelbase with a corresponding increase in length, a slight tendency toward higher cars, but a definite decrease in turning diameter for the longer models.

Courtesy Ramp Building Corporation



GARAGE FLOORS WITH VARIOUS RAMP SYSTEMS

Fig. 1. Straight single-way ramp.

Fig. 2. Two-way straight ramp.

Fig. 3 and 4. Section and plan of staggered floor, (*d'Humy* patent.)

Fig. 5. Elliptical ramp (Commodore-Biltmore Garage.)

Fig. 6. Concentric spiral ramp (Eliot Street Garage.)

Fig. 8. Double spiral ramp (Richmond Garage.)

Fig. 9. Ramp garage in core of office building.

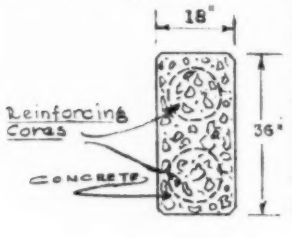
of 7 feet is extravagant except in parking garages having a very high turnover.

(c) 15 feet depth with a 20 foot aisle width is generally sufficient. Cars of maximum length may be parked at ends of aisle where the projection into aisle causes less inconvenience, or a certain part of the parking area may be made deeper to accommodate the larger cars.

(d) The three car bay has generally been found to be most satisfactory. It should have a space of 20 feet 3 inches in the clear between columns, but this space may be reduced on the first few floors to 20 feet if necessary to allow for additional column size. (Free short time parking garages require 21 feet in the clear.) One advantage of the three car bay is that when the garage is not running at capacity, two cars may be placed between columns, allowing very ample space to maneuver cars; and two trucks may be placed in the space provided for three cars.

(e) Interior columns should be elliptical to conserve space. (See sketch below.)

(3) Parking Guides. Concrete curbs are sometimes placed in parking bays to serve as guides for cars. These have proved unsatisfactory as they make it difficult to park a car and are likely to scrape the tires. Curbs are desirable at sides of ramps and driveways and should be painted with diagonal striping to increase their visibility. Floor grooves have proved unsatisfactory because they collect grease and dust. Lines painted on the floor are not recommended as paint soon wears off. Cast iron traffic buttons have proved fairly satisfactory as markers. These permit truck or two car parking yet clearly indicate the capacity car spaces.



MODEL OF DOUBLE SPIRAL RAMP IN RICHMOND GARAGE, VA.

(4) Stall Numbers. Stall numbers painted on the floor or walls are a disadvantage. If numbered, a customer who rents space by the month expects the same stall each time. Not having stall numbers permits the overselling of parking space by approximately 25%.

b. Entrance Floor. (1) Garages should have only one point of entrance and exit.

(a) It simplifies the checking in and out of cars and reduces to a minimum the chance of a car being stolen.

(b) It increases sales in the "accessories" department, which may be located so that all those entering or leaving the building will pass through or near it.

(c) It permits the provision of only one information desk and one waiting room with toilets.

(d) The greatest loss of heat in a garage building in winter occurs when the large doors are opened. With a single entrance this loss is reduced.

(e) The cost of installing and the expense of operating garage doors are reduced.

(2) The Garage Entrance should be located as far as possible from a street intersection because if placed near it, the waiting lines of traffic will at times prevent exit of cars from garage.

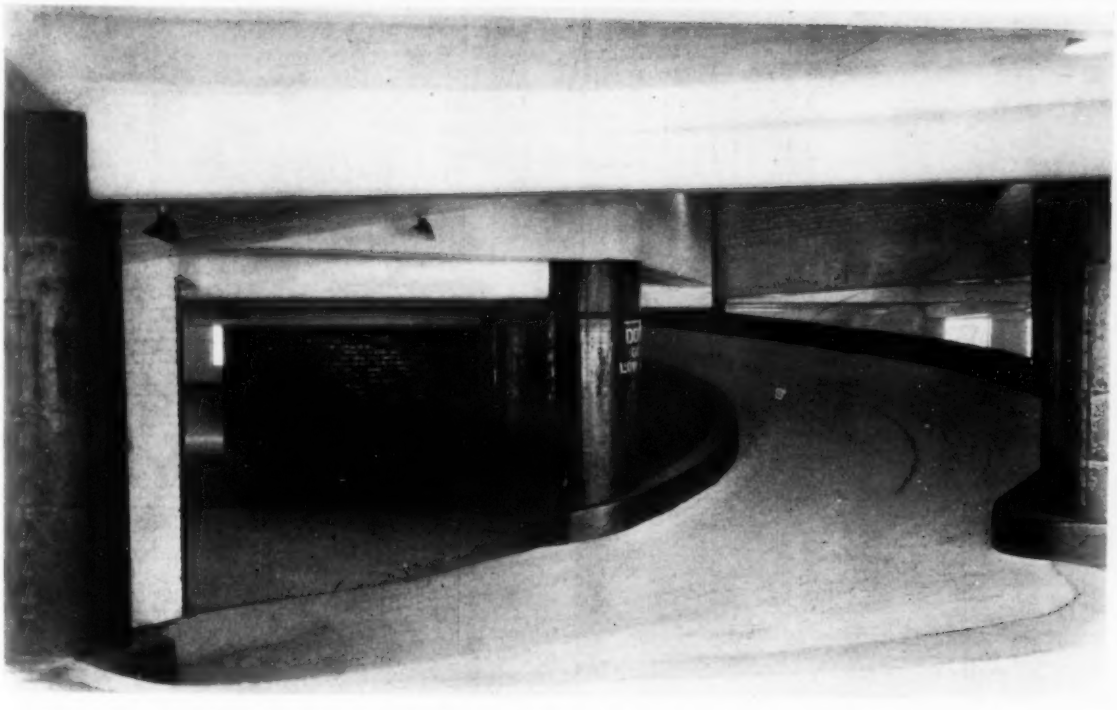
(3) The filling station should be adjacent to the garage entrance. (See arrangement on page 193.)

(4) Three or more driveways should be provided so that two may serve incoming traffic and one outgoing in the morning; in the evening this would be reversed.

(5) Waiting rooms should be placed to the right of cars going out so that passengers will not need to cross the driveway.

(6) Traffic markers as used for safety zones are satisfactory for division of these roadways.

(7) Provision for Merchandising. Although the natural tendency might be to install service facilities



(ABOVE) GENERAL VIEW (BELOW) ENTRANCE TO SPIRAL RAMP

RICHMOND GARAGE, RICHMOND, VA.

LEE, SMITH & VANDERVOORT, ARCHITECTS

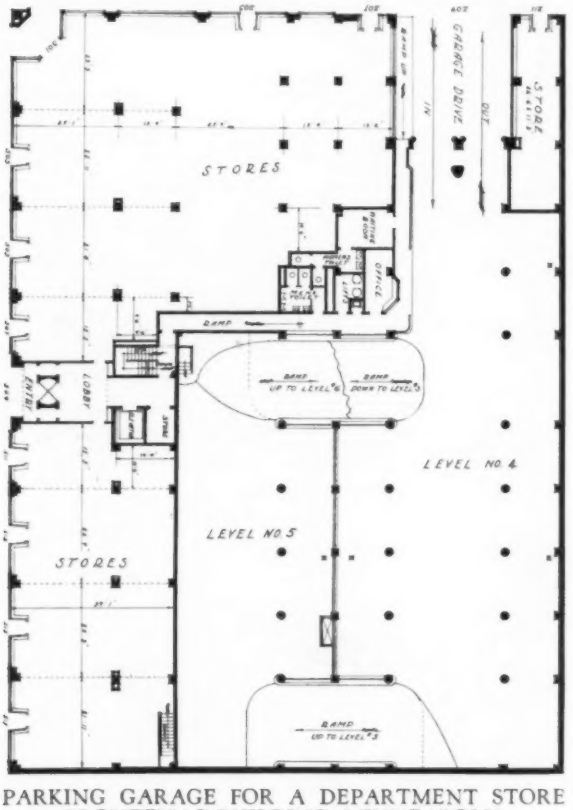
for washing, greasing, brake adjustments, and so forth, in the basement, these facilities should be located on the entrance or second floor where they will exert a constant sales effect through power of suggestion.

A "tire and accessories" salesroom should be located adjacent to waiting rooms and gasoline pumps, in order to serve both the filling station trade and garage parking patrons.

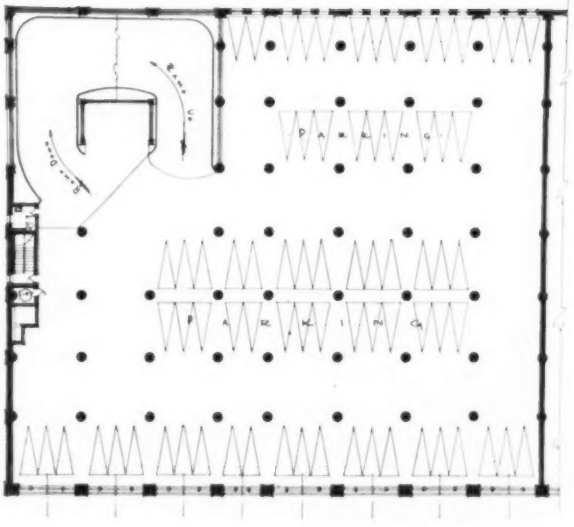
Merchandising should be restricted generally to automobile accessories, although show cases may be provided for tobacco, candy, etc., which sometimes show a small profit.

The importance of merchandizing is indicated by the statement of a garage operating company that in the early stages of their business, 80 per cent of the gross income from garages operated by them was from parking and 20 per cent from merchandizing; while now 30 to 50 per cent of the gross income is from parking and 50 to 70 per cent from merchandizing.

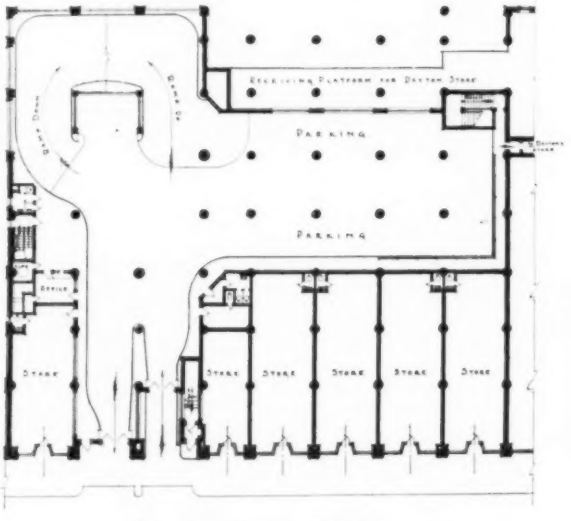
c. Roof. (1) Provision should be made for roof parking, not only because the additional parking space may prove a source of income, but also when a ramp or elevator is installed running to the roof, the problem of adding floors at a later date is simplified.



PARKING GARAGE FOR A DEPARTMENT STORE
FRONTENAC BUILDING, MINNEAPOLIS
LARSON & McLAREN, ARCHITECTS



SECOND FLOOR PLAN



FIRST FLOOR PLAN

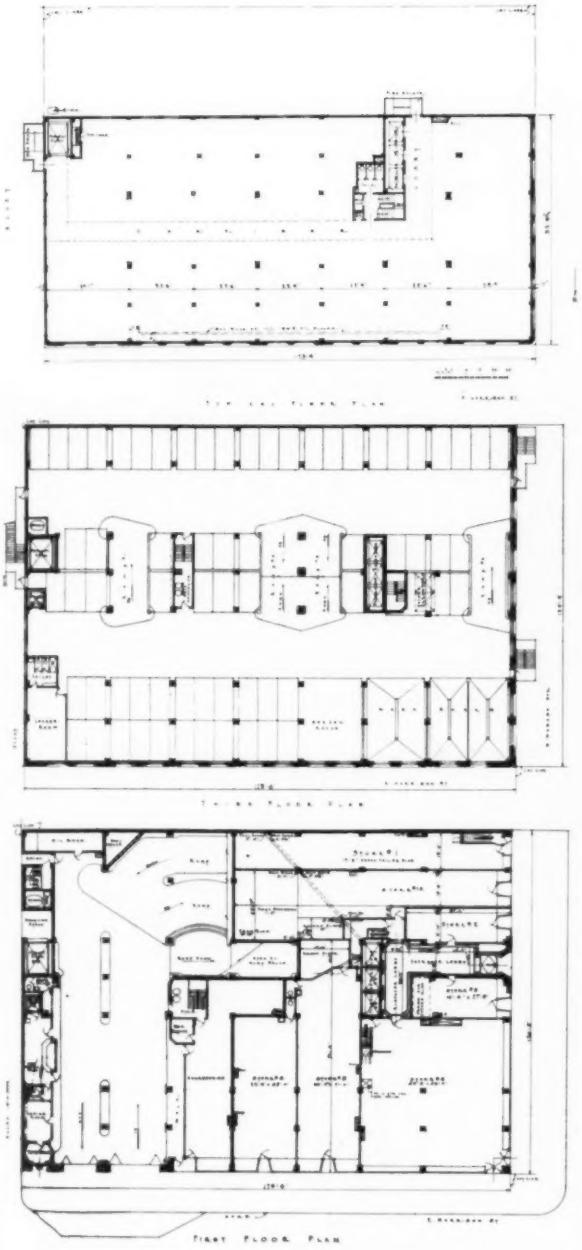
DAYTON GARAGE, MINNEAPOLIS
LONG & THORSHOV, INC., AND LARSON & McLAREN
ASSOCIATED ARCHITECTS

(2) Roof deck should be covered with special floor as described under Construction Data. (See page 191.)

2. INTERFLOOR TRAVEL. a. Ramps. (1) The *straight single-way ramp* (Fig. 1., page 183) has an efficiency of 46 per cent and requires 242 square feet per car.*

(2) The *two-way straight ramp* (Fig. 2.) has an efficiency of 38 per cent and requires 290 square feet per car.

*Computation of efficiency and square feet per car is made in this study on a basis of a parking floor, 100 x 200 feet.



shown in Fig. 4. This ramp system has an efficiency of 51 per cent and requires 218 square feet per car.

(4) (Fig. 5.) The *elliptical ramp* used in the Commodore-Biltmore Garage, New York, has an efficiency of 40 per cent and requires 278 square feet per car.

(5) The *elliptical ramp* used in the Fisher Building, Detroit, (page 188) has an efficiency of 40 per cent and requires 278 square feet per car.

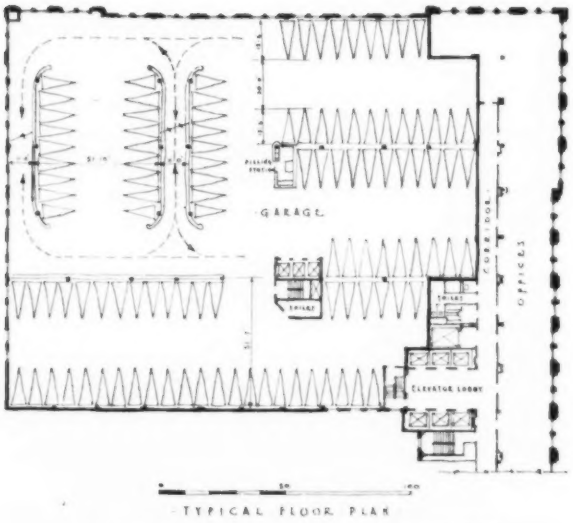
(6) (See Fig. 6.) The *concentric spiral ramp* has an efficiency of 43 per cent and requires 260 square feet per car.

(7) (See Figs. 8 and 9.) The *double spiral ramp* is designed on the principle of a double thread screw, the up traffic driving on one thread and the down traffic using the other thread. Both ramps use the same space that would be required for a single circular ramp of the same diameter. The double spiral ramp has an efficiency of 45 and requires 243 feet per car.

EXAMPLE OF OFFICE BUILDING WITH GARAGE ON LOWER FLOORS
BUILDING FOR THE MICHIGAN BOULEVARD CORPORATION, CHICAGO
ALFRED S. ALSCHULER, ARCHITECT

(3) The *staggered floor* system (Figs. 3 and 4.) controlled by *d'Humy* patents differs from other systems in that the building does not have continuous floors. The building is divided by a vertical plane, the floors one side of the plane being a half story higher than the floors on the other side. The floors are connected by short straight ramps. This feature is shown in Fig. 3. A floor plan of the staggered floor type is

It will be noted that the above methods have varying degrees of separation of interfloor traffic from parking aisles. The extent to which this separation of traffic should be carried will depend, as pre-



FISHER BUILDING GARAGE, DETROIT
ALBERT KAHN, INC., ARCHITECTS

viously stated, on height and area of building, volume of peak load, and other economic factors.

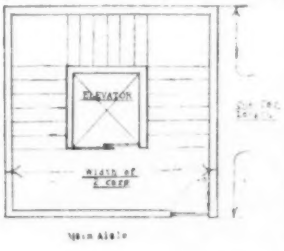
For the average multifloor garage with capacity up to 350 to 400 cars the one-way single roadway ramp is sufficient. In buildings where the capacity is 450 or 500 cars, ramps 20 feet wide (three-car spaces) work out very satisfactorily. Ramps of this width will enable small and medium size cars to pass on them, but make it necessary for larger cars to pass in the aisle between the ramps.

In buildings with a capacity of over 500 cars, a system of double ramps is desirable, permitting continuous movement of cars travelling in both directions.

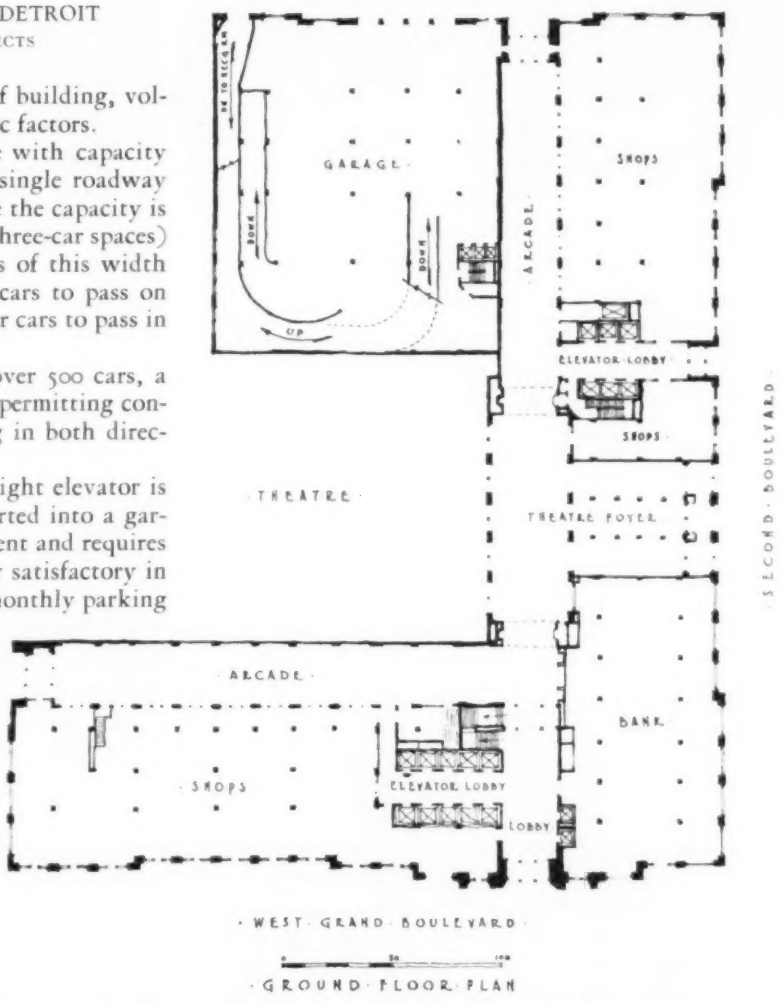
b. Elevators. (1) The ordinary freight elevator is often used when a building is converted into a garage. It has an efficiency of 53½ per cent and requires 208 square feet per car. This is fairly satisfactory in buildings of small area, catering to monthly parking and having a small peak load, but is unsatisfactory where peak load is heavy.

(2) Power Parking elevator as installed in the recent Kent Garage, New York City, obtains an average of 68 per cent of floor coverage. Cars are parked on two sides of the elevator with the aid of an electric parking machine. This method with two or more cars parked in a row requires some shifting to bring cars to elevator.

(3) The four-way parking elevator obtains a maximum use of floors with practically all cars as live storage. The elevators are two storied, the cars on upper and lower floors facing at right angles. The cars run in tracks and are loaded and unloaded by a gravity system. It is estimated that this type will have an incoming capacity of six cars per elevator per minute and an outgoing capacity of about three cars per minute. This plan has a floor efficiency of 59½ per cent and requires 187 square feet per car.



Passenger elevator and stairway (under normal conditions) should be located in one corner of the building. The illustration on the left is an efficient combination of stair and elevator occupying a two-car bay.



FISHER BUILDING WITH GARAGE, DETROIT
ALBERT KAHN, INC., ARCHITECTS

ENTRANCE, FISHER BUILDING GARAGE, DETROIT
ALBERT KAHN, INC., ARCHITECTS

(C.) CONSTRUCTION FACTORS.

1. Ramps. a. A 12 to 15 per cent grade is recommended. In no case should the grade exceed 20 per cent.

b. The surface of the ramp should be made rough with a "wood float" finish.

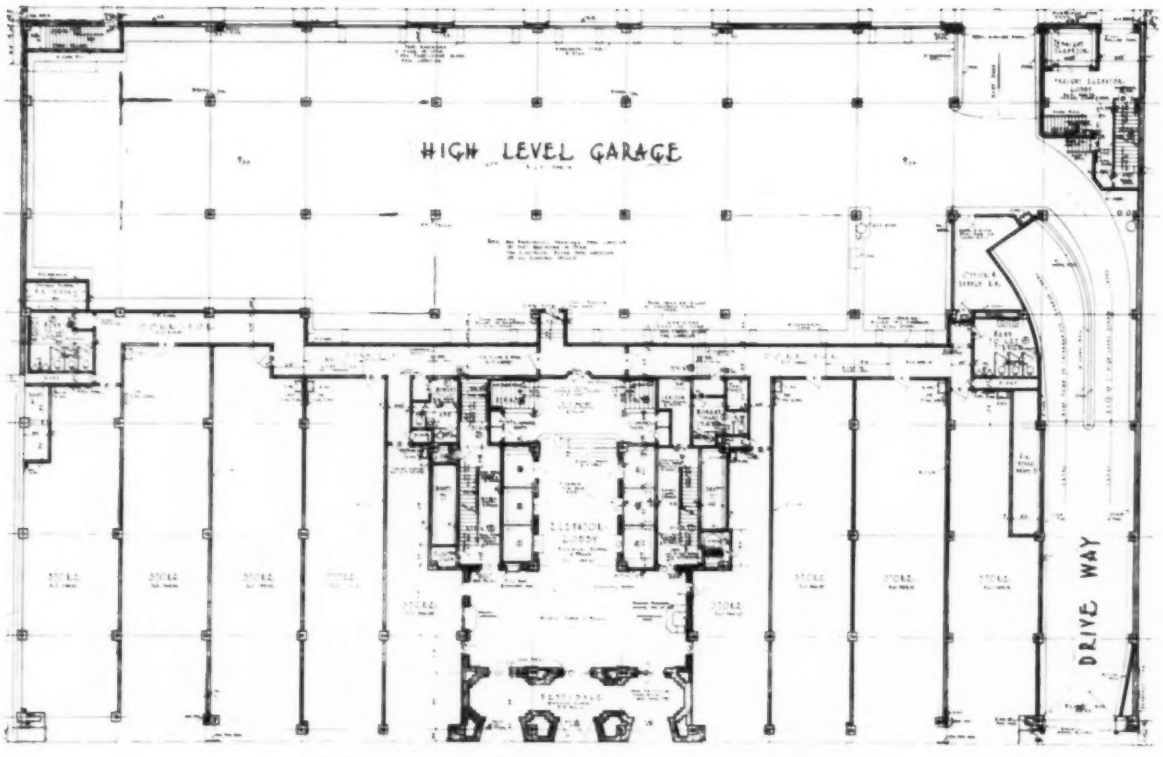
c. The ramp may extend into the aisle two or three feet, the floor being raised slightly to meet the slope of the ramp. In designing the concrete it is often possible to obtain the desired slope by raising the floor beam at its juncture with the ramp. The intersection of ramp slope with the floor should be at right angles to the slope.

d. Ramp walls should be omitted in order to give better vision for the driver, thereby reducing danger of collision. When fireproof doors are required by fire regulation at each floor level, then the open ramp is only possible if the building is divided by a fire wall at right angles to the ramp. This fire wall may easily be incorporated with the staggered floor system and with varying success with other types of ramps.

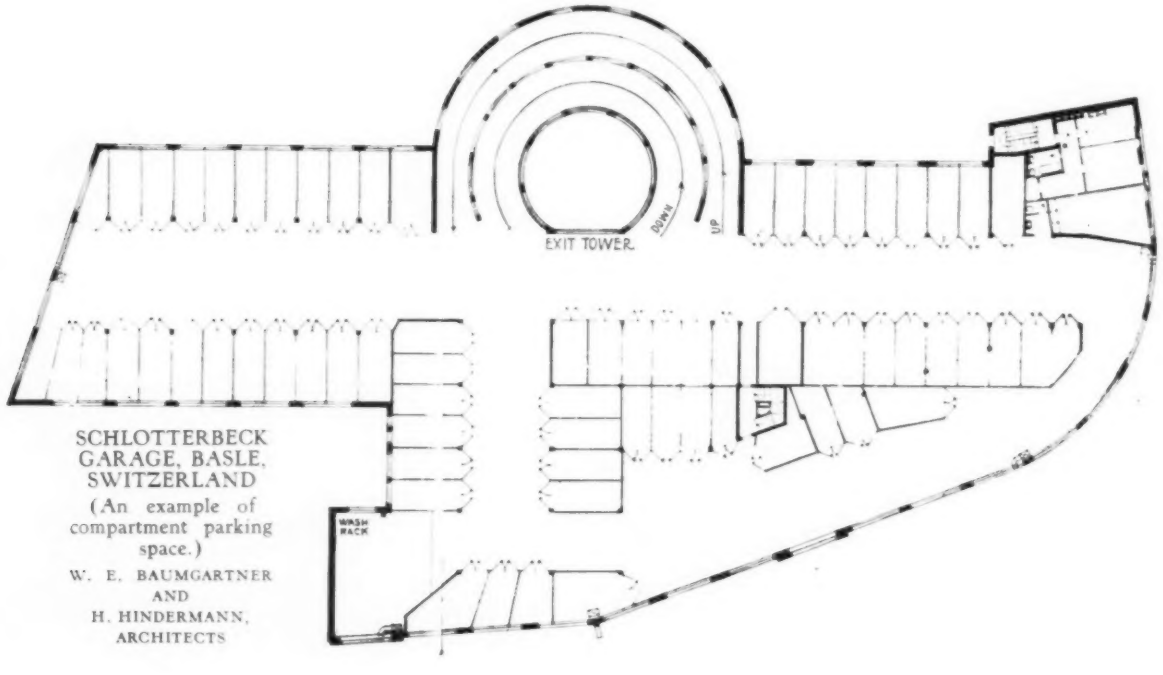
2. Fire Hazard and Insurance. An insurance rating bureau should be consulted in order that advantage may be taken of the various fire prevention practices in construction, so as to reduce the insurance rate.

3. Live Floor Load. The building code requirements of various cities show a variation in live-load requirements of from 50 to 250 pounds per square foot. A live load factor of 100 pounds per square foot for a passenger car and light truck garage is both safe and economical. For a heavy truck garage the figure should be raised to 150 lbs. per square foot.

4. Floor Treatment. a. Dust proof. Concrete garage floors which "dust" easily offer a serious problem to garage operators, as it is almost impossible to keep the parked cars clean under such conditions. An expert concrete finisher can produce a hard "dustless" floor without the use of surface floor hardeners. In cases where expert workmanship is not available,



AN OFFICE BUILDING WITH GARAGE CONVENIENCES
(CLIENTS' CARS ARE PARKED FREE FOR ONE HOUR)
BUILDING FOR THE TITLE INSURANCE AND TRUST CO., LOS ANGELES
JOHN PARKINSON AND DONALD B. PARKINSON, ARCHITECTS



SCHLOTTERBECK GARAGE, BASLE, SWITZERLAND
(An example of compartment parking space.)
W. E. BAUMGARTNER AND H. HINDERMANN, ARCHITECTS

KENT ELEVATOR GARAGE WITH MECHANICAL PARKING, NEW YORK CITY
JARDINE, HILL & MURDOCK, ARCHITECTS

it is advisable to apply a surface floor hardener.

b. Waterproof. A well built slab floor *should* be sufficiently water tight for all purposes in a garage building. Certain precautions, however, are advisable and waterproofing may be necessary. The seepage of water through a slab floor is caused by unsealed cracks which develop after seasoning or by poor or porous bonding between successive day's pourings. Should cracks develop after seasoning they should be cut and cleaned out to leave a V joint ½ in. wide and ¾ in. deep. This joint should be poured full of *Vault Light Cement*.

The entire floor, where possible, should be poured in one day or, where the building is large, a V joint of the size noted above should be left between the end of one day's work and the beginning of the next. This joint should be filled with the above mentioned seam composition. Caution: Seepage has occurred where one day's pour is joined to that of following day. No construction joints should be permitted within 20 feet of a drain.

Waterproof asphalt finish should not be used for garage floors as it is affected by oils and greases.

(Note: Snow is the principal source of water in garages and in climates with heavy snowfall it is advisable to provide floor drains for the removal of the melted snow.)

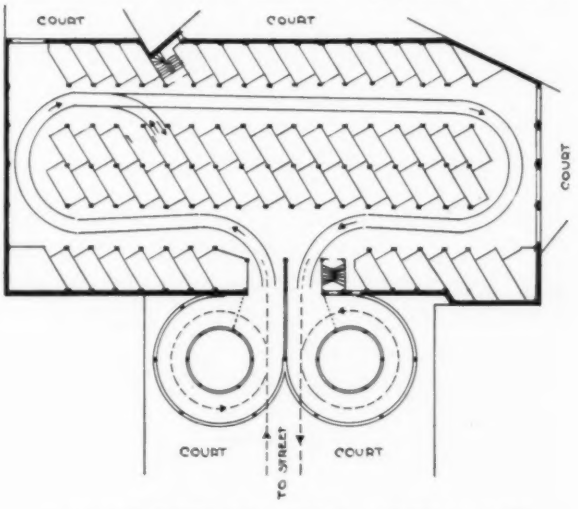
5. Roof Treatment. A roof used for parking should be surfaced with approved asphalt paving blocks laid over waterproofing and in asphalt. These paving blocks do not in themselves constitute a system of waterproofing because of joints but serve as protection for waterproofing underneath.

Or a 3″ thick concrete slab may be laid over the usual five ply waterproofing felt applied with hot tar. The slab should be constructed in sections not exceeding 5 feet in each direction and separated from each other and from the parapet wall by quarter-inch joints filled with a suitable ¼″ expansion joint or some approved seam composition. Before applying the concrete slab finish, the surface of the felt should be covered with a heavy layer of hot tar.

(D.) EQUIPMENT—GENERAL.

1. Heating. In garages there is a large heat loss from frequent opening of entrance doors. Since there are no interior partitions, air currents through entrances or windows will make it very difficult to heat the windward side of the building but by using unit heaters and ventilators it is possible to meet the heating requirements.

The two pipe steam system, sufficient to raise the temperature to fifty degrees on the coldest days, should be used for the car storage part of the building. A hot water or steam heating system should be



GARAGE WITH DIAGONAL PARKING AND RAMPS IN SEPARATE TOWERS
(An Uneconomic Parking and Interfloor Travel System.)

provided to heat the offices and waiting rooms.

If direct radiation is used the location of radiators is of prime importance. Placing radiation on the ceiling is satisfactory from a car storage viewpoint but decidedly inefficient as a method of heating. When radiators are placed on walls under the windows they are in danger of damage and should be protected against breakage by heavy guards.

Buildings with a ramp system are provided with extra radiation on lower floors because of the openness of construction and on account of heat loss from the entrance. Only limited radiation is required for the upper floor because of heat that rises from below.

2. VENTILATION. Garages used exclusively for parking and having ample window space, need no ventilating equipment except in the basement. If a part of the garage is to be used for making minor repairs, such as timer or carburetor adjustments which will require running the engine, provision should be made for installation of an exhaust vent with flexible connections for attachment to exhaust of cars.

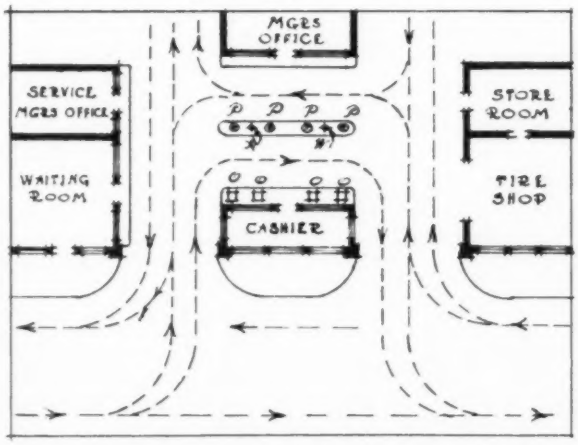
If a central ventilating system is provided and the

BASEMENT PARKING SPACE FOR OFFICE BUILDING
WILSHIRE MEDICAL BUILDING, LOS ANGELES
JOHN PARKINSON AND DONALD B. PARKINSON, ARCHITECTS

DETROIT NEWS GARAGE, DETROIT, MICHIGAN
ALBERT KAHN, INC., ARCHITECTS

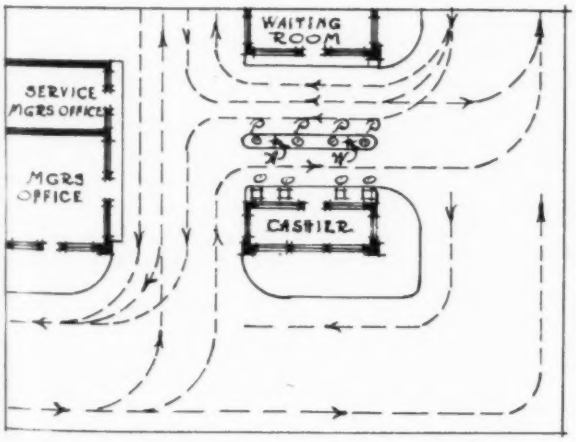
ventilating shaft is located in the center of the building, away from the windows, most efficient ventilation is secured in the summer by placing the louvers at the ceiling. The gases emitted by the motors are hot and will immediately rise to the ceiling. In winter, however, the natural circulation in the building will be upward at the windows across the ceiling toward the center of the building and thence downward and along the floor to the louvers in the shaft at or near the floor. Provision should also be made for exhausting a small quantity of air near the ceiling.

3. Lighting. Lighting for ramps should be on separate circuit from floor lights and controlled from first floor so that they may be turned off when not needed. Lights should be arranged so as to give an even lighting for entire floor, about two candle power per squarefoot. Concentration of light on aisles and correspondingly less at rear of parking space adds to difficulty in parking. Lights should be equipped with pull cords so that they may be extinguished when not needed.

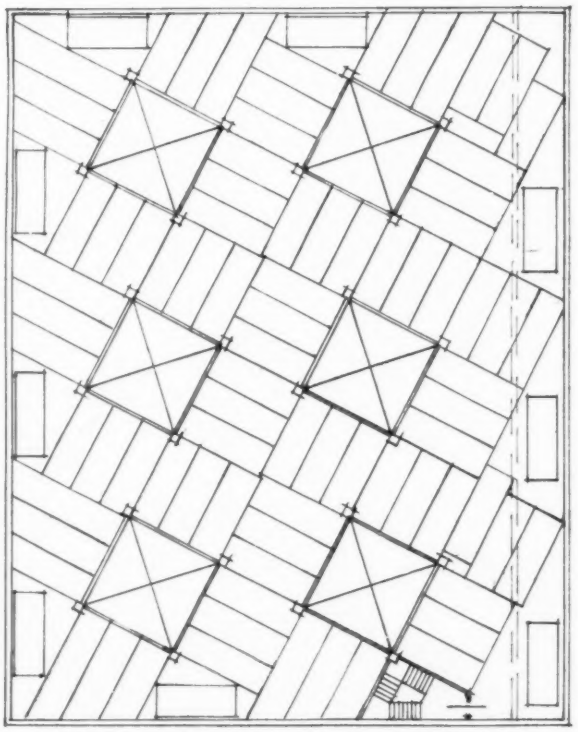


AN APPROVED ARRANGEMENT OF SERVICE STATION TO GARAGE ENTRANCE

PREPARED BY ARTHUR BRACE OF THE TIDE WATER OIL COMPANY'S CONSTRUCTION ENGINEERING DEPT.



AN ARRANGEMENT OF SERVICE STATION IN GARAGE SITUATED ON CORNER OF BLOCK



PLAN OF FOUR-WAY ELEVATOR PARKING GARAGE. A PATENTED ARRANGEMENT

Wall plugs should be installed at convenient points to permit attachment of "trouble shooting" light cord. Special attention should be paid to installation of flood lights above and below wash and grease racks.

(E.) SPECIAL EQUIPMENT.

1. Garage Doors. Garage exterior doors should open automatically or be mechanically operated. The overhead door is satisfactory for private garages but may be a source of accident in parking garages, due to restriction of upward vision, preventing view of door not fully open.

2. Electric Call System. Garages should be equipped with electric call systems for communication between owners and chauffeurs or attendants. Telautographs are often used and are a convenience in transmitting orders to various floors. They are especially valuable as they preserve a record of orders.

3. Gasoline Supply. Gasoline should be supplied at the entrance and should also be piped to all floors as it is often more convenient to supply cars with gasoline on their storage floors, and thus avoid congestion at the street exit. In a large garage it is imperative to have at least one gasoline outlet on each floor.

4. Compressed Air. Outlets for compressed air should be provided at all floors.

5. Service Equipment. Equipment such as brake testing apparatus, wash racks, grease racks and vulcanizing equipment should be installed on the first or second floors.

6. Dirt Shoots. It has been found convenient to install a dirt shoot, with openings at all floors, for removal of floor sweepings.

7. Lockers. Lockers of ample size should be installed in waiting rooms and chauffeurs' quarters.

II. SUBSIDIARY GARAGE

Garage facilities provided in connection with department stores, office buildings, hotels and apartment houses, are generally subsidized. They are maintained to attract trade and as a convenience to patrons.

With the following exceptions the economic, planning, construction and equipment factors are approximately the same as for the independent garage.

The need of minimum cost building and of maximum parking space is less imperative than with the commercial garage. This is particularly true of a garage in connection with a store which is maintained as a convenience, and to attract customers. Store owners might well expend additional sums on improved appearance and convenience of garage entrances.

The aisles, car bays, and ramps should be very ample to facilitate their use by inexpert drivers and to increase speed of service.

Location. Free parking space when provided, should, where possible, be located in the basement or in the rear of building. When this service is added to an existing building, the garage facilities should be provided in an adjoining structure.

When rental parking space is provided, a garage may be attached to the main building, but the present tendency is toward the use of the lower floors of the building served. Such floors, especially when the building is located on a narrow street, are less desirable for office use than the upper floors on account of street noises and lack of sunlight.

When land cost is high it is preferable to use the core of the building for parking space with offices in the perimeter. (See Fig. 9 on page 183.) Here, probably, will be the solution of garage location in city buildings.

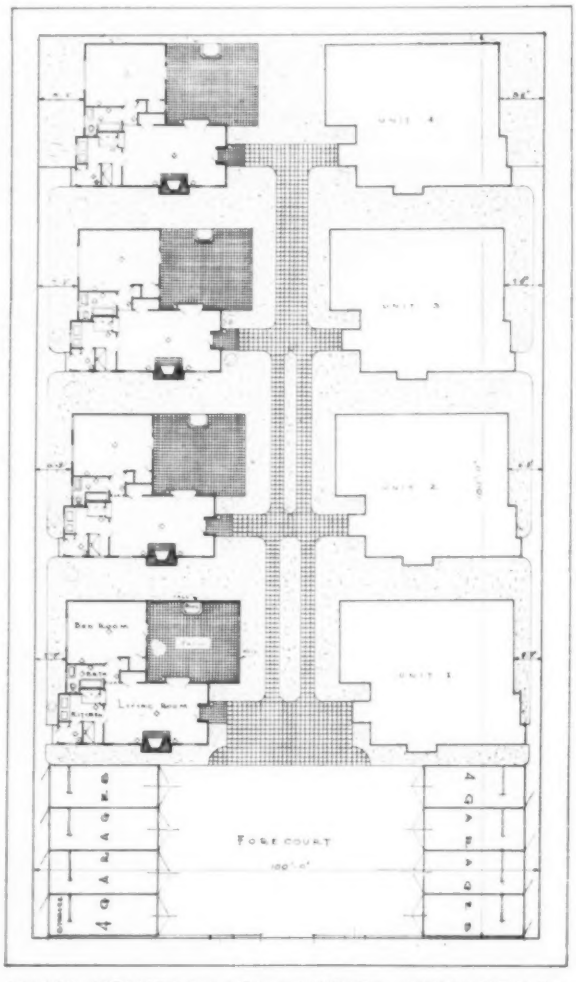
Apartment House Type. Residential districts are generally zoned against parking garages. An independent parking garage may depreciate the value of adjoining property in an apartment district but if built as part of and to serve an apartment house alone, there would not be depreciation.

Two contrasting opinions are here quoted:

"The Board of Trustees of the Village of Hastings-on-Hudson, New York, by virtue of section 89 of the village law ordain and enact . . . that there shall be provided on the same plot with any multi-family dwelling, a gravelled or paved parking area sufficient in size to accommodate one car for each family housed. . . ."

On the other hand, the Supreme Court of Pennsylvania in a decision handed down May, 1928 (Ladner vs. Siegel, 142 Atl. 272), held "that a public garage, though not a nuisance in itself, can become such when conducted in a residential neighborhood, regardless of how it may be carried on.

"In the case before the Pennsylvania courts the question arose with regard to the building of a public garage which it was proposed to construct in the center of a block to provide garage facilities for the cars of the occupants of apartment houses which it



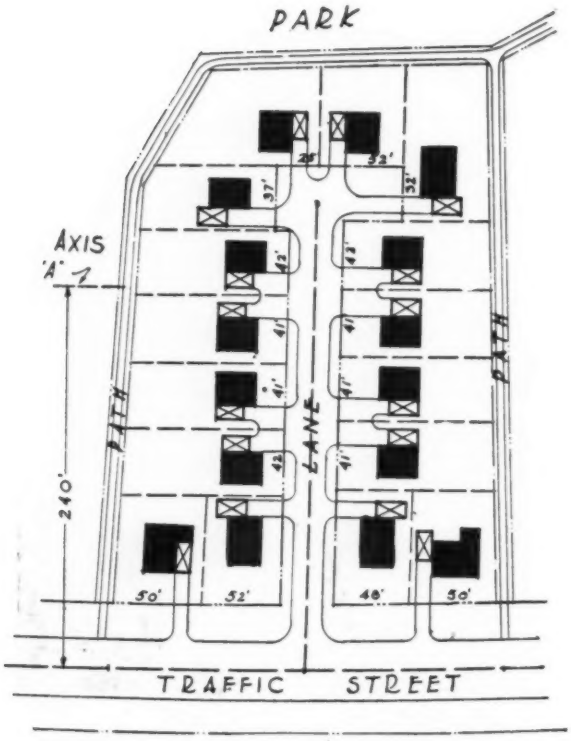
SMALL HOUSES IN LOS ANGELES, ARRANGED IN RELATION TO FORECOURT WITH GARAGES
CHRISTINE STERLING, DESIGNER

SMALL HOUSE WITH GARAGE, LOS ANGELES (See Plan on Page 194)

CHRISTINE STERLING, DESIGNER

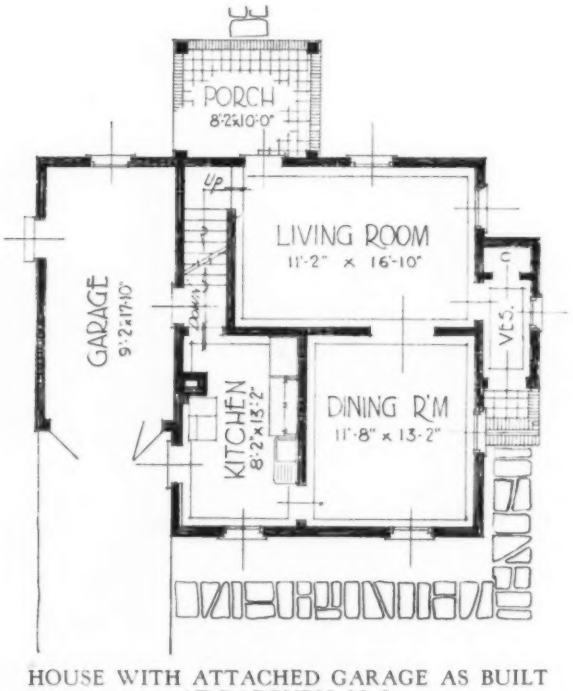
SPECIFICATION CHECKING LIST

1. GENERAL
   - Size, height and character of building determined by survey.
   - Entrances and exits placed as far as possible from street intersections.
   - Provide space for cars waiting to be checked on entrance floor.
   - Check zoning, building and fire ordinances.
   - Garage construction to comply with regulations of National Board of Fire Underwriters.
2. FLOOR TREATMENT (Concrete)
   - Entire floor poured in one day.
   - Floor surface hardener.
   - Waterproofing for floors and walls.
   - Surface cracks sealed with vault light cement.
   - Floor drains for removal of snow water.
   - Drains for wash racks.
3. HEATING AND VENTILATING
   - Unit heaters and ventilators for garage proper.
   - Steam or hot water for offices and waiting rooms.
   - Fan ventilation for basement.
   - Attachable exhaust vents where repairing is done.
   - Fan ventilating system where windows are insufficient.
4. LIGHTING
   - Separate circuit lighting for ramps.
   - Light control at each floor.
   - Wall receptacles in each bay and at all columns for "trouble shooting" light cord.
   - Flood lighting above and below wash and grease racks.
5. SPECIAL EQUIPMENT
   - Exterior garage doors automatic, operating at side.
   - Electric call system or Telautograph.
   - Gasoline supply outlets at each floor.
   - Compressed air at each floor.
   - Dirt shoots at all floors.
   - Lockers in waiting rooms, washrooms and chauffeurs' quarters.
   - Electric signal for car calls and for indicating parking space occupancy.



GROUPING OF HOUSES WITH ATTACHED GARAGE ON PRIVATE LANE "A TOWN FOR THE MOTOR AGE," RADBURN, N. J.

CLARENCE S. STEIN AND HENRY WRIGHT, ASSOCIATED ARCHITECTS



HOUSE WITH ATTACHED GARAGE AS BUILT AT RADBURN, N. J.

was planned to build on the four sides of the block. The contention was made that inasmuch as buildings for the accommodation of their motors is a requirement which the Court must recognize and that therefore the general rule forbidding the erection of a public garage in a residential district should not apply to cases of this character.

"The Court, however, decided against the public garage owner partly because the contemplated apartments had not yet been erected and there was not yet apparent to the Court, any need for such service."*

*"Housing," N. Y. C. December, 1928, p. 293, 294.

PRIVATE RESIDENTIAL GARAGE

I. LOCATION.

A. At Rear of Lot. It has been the custom to locate the residence garage at the rear of the lot. This necessitates separate heating apparatus in cold climates, and is inconvenient. Where there is no alley the drive from the street to the rear of lot often interferes with the satisfactory treatment of the grounds.

B. Garages on Court Adjacent to Street. A plan has been developed with garages on a forecourt and houses at rear (see page 194), which, by providing a minimum driveway, saves development cost, and gives the residents greater privacy than where garages are at the rear.

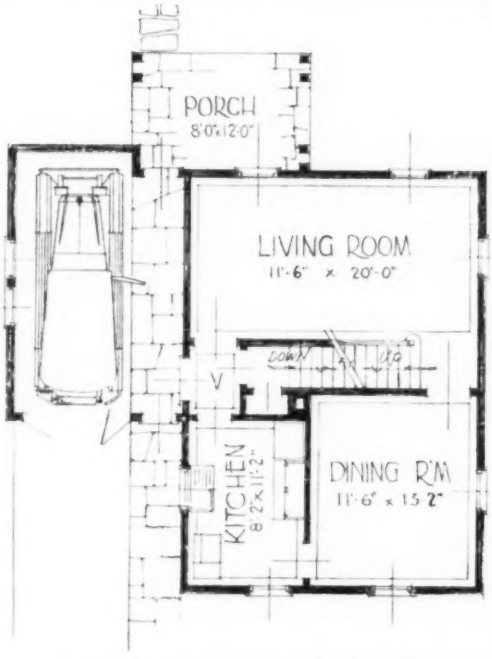
C. Garage Attached to House. Garages attached to dwellings are not an undue fire risk if reasonable precautions are followed. The garage floor should be non-combustible. The garage should be separated from the rest of the building by unpierced partitions, and ceiling constructed to meet the one hour fire test. Walls, windows, and doors must be fire resistant. A single self-closing fire door leading from garage to house may be used. "As a minimum requirement, walls may also be constructed of wooden studs spaced 16 inches center to center, with metal lath attached outside and inside. The outer lath is to be plastered and back-plastered with Portland cement stucco, and the inner lath plastered with $\frac{3}{4}$ inch Portland cement or gypsum plaster. For interior partitions separating garage from dwelling, $\frac{3}{4}$ inch Portland cement or gypsum plaster on metal lath, on both sides of studs is satisfactory."

There is an increasing tendency to attach the garage to the house. This has been a development that has followed the changed attitude toward the motor car. The automobile was at first housed in a detached garage, perhaps on the same principle which led the first designers of cars to make them with dashboards and whip sockets. But the discovery that a garage was not a stable has made it a common practice to include it in the house and express it externally.

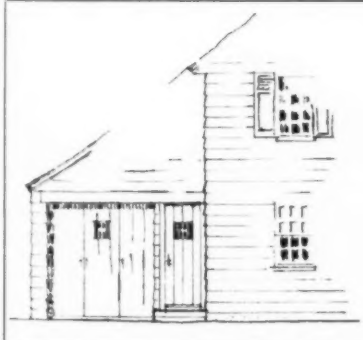
In the "House for the Motor Age," shown on the opposite page, we offer a solution to the house garage problem.

A HOUSE FOR THE MOTOR AGE

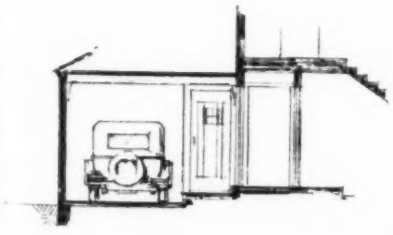
The house plan with garage incorporated as a part of the house, illustrated and described on this page, is suggested as a logical step beyond the house plan adopted for Radburn and for the average moderate size dwelling. When we enter the garage of our proposed scheme, we, in reality, enter the house. There is a single entry which leads directly to all divisions of the house.



A HOUSE FOR THE MOTOR AGE



GARAGE AND HOUSE ENTRANCE



SHOWING RELATION OF GARAGE TO ENTRY

On the opposite page is illustrated a house plan for Radburn, New Jersey. The Radburn Development has been called "A Town for the Motor Age." This novel town planning eliminates the street that passes the door step and represents the application of twentieth century technology and scientific street location to town building. It has permitted the placement of homes so as to front on open lawns and gardens. All *through* motor traffic is cared for on boulevards. Residences are on dead ended private lanes which, while giving access to houses and private garages, cannot be used for general traffic. The very large block units add greatly to privacy and attractiveness and also permit the residents to walk to stores, schools, etc., with practically no street crossings. Not only is this plan far superior to the ordinary street and block system but the saving in installation of streets and public utilities more than pays for the interior parks and paths.

The house plan for Radburn, page 196, provides garage accommodation beneath the house roof. Access to the house from the garage by a circuitous pathway to an entry at the opposite side of the house, is open to question. Aside from the inconvenience of a round-about pathway, the necessity for a vestibule far removed from the garage may be debated. Guests will park their cars in the garage driveway, off from the private lane. It will therefore be most convenient to enter the house directly from the garage. It is obvious that when guests are not to be considered, the kitchen doorway will, in reality, be the place of entrance.

Should we not accept the garage as the logical place of entrance? With the "house for a motor age" illustrated on this page, the garage is widened to permit an adjoining walk. The vestibule off the garage leads to the living room, kitchen or basement stairway. (The service feature is not different from many apartment houses.) The saving in expense for other outside door vestibules, grading, stone paving, weather stripping and heat losses, can be applied to making attractive the combination of entrance and garage doors.

An alternate scheme which should, perhaps, receive consideration of the designer, would be to further recess the garage beyond the centre of the house so as to permit entrance from a small porch at juncture of garage and house.

THE PLACE OF THE GARAGE IN CITY PLANNING

BY ERNEST P. GOODRICH

THE place of the garage in City Planning is one of the most troublesome of all planning problems. Recent tendencies in well considered zoning ordinances, however, point to the prospect of a satisfactory solution.

In zoning work, garages may be divided into four classes: (1) private garages for the use of one or more families living on the same lot upon which the garage is built; (2) parking garages within an office building for the use of tenants or their clients; (3) public garages whose main function is parking of cars for tenants or clients of near-by buildings; and (4) so-called public garages devoted primarily to the repair of motor vehicles.

The recent trend in zoning ordinances has been to exclude from business districts garages devoted primarily to repair and to permit them only in zones of light or heavy industries. Although some zoning ordinances prohibit private or public parking garages in business districts, it would be better to encourage their proper location and use in districts where traffic density and street width necessitate entire prohibition of parking.

In single family residence districts there is a tendency to have the garage located within the walls of the main building, either at ground level, below building grade or as a projecting wing of the building, instead of on the rear corner of the lot as was the prevailing custom up to the last few years. In two-family houses and for dwellings there is a similar tendency to keep the back yards open by placing a garage within or adjacent to the residence structure. This has resulted from a demand for heated garages but the by-product of greater yard openness is no less important as a social factor.

With respect to the garages incident to apartment houses a more serious problem and a wide difference of opinion exist. Serious opposition develops whenever it is proposed that garage space be provided underneath multi-family dwellings. The imperative need to provide suitable garage space limited to storage of private passenger cars for tenants of such multi-family apartment structures leaves only one course open, namely: to provide such space on the same lot with multi-family structures. Where the slope of the ground permits, this can be accomplished by construction of storage garages, one-half the height of which is under ground. The problem of draining away gasoline and oil vapors makes it necessary to slope the garage floor and place the exits so that there shall be proper drainage of air to lessen the explosion and asphyxiation hazard. In flat country this hazard necessitates the construction of the garage entirely above the ground. Where the roof of such a garage is flat and terraced or surfaced so as to provide a recreation or parking area it seems proper to count such surface area as part of the side or rear yard.

Incidentally, one of the most recent zoning ordinances provides that on the same lot as any apartment house there shall be a paved or gravelled parking space of sufficient area to accommodate one car for each family housed and that such parking area shall not be leased but reserved for the tenants of the apartment house and their guests.

Of course it goes without saying that all public garages and all private garages incident to multi-family dwellings should be capable of meeting the Board of Fire Underwriters' standard one hour fire test. Also that one or two-car garages in connection with private homes, two-family or group houses should be of fire resistant construction when within the walls or adjacent to the house.

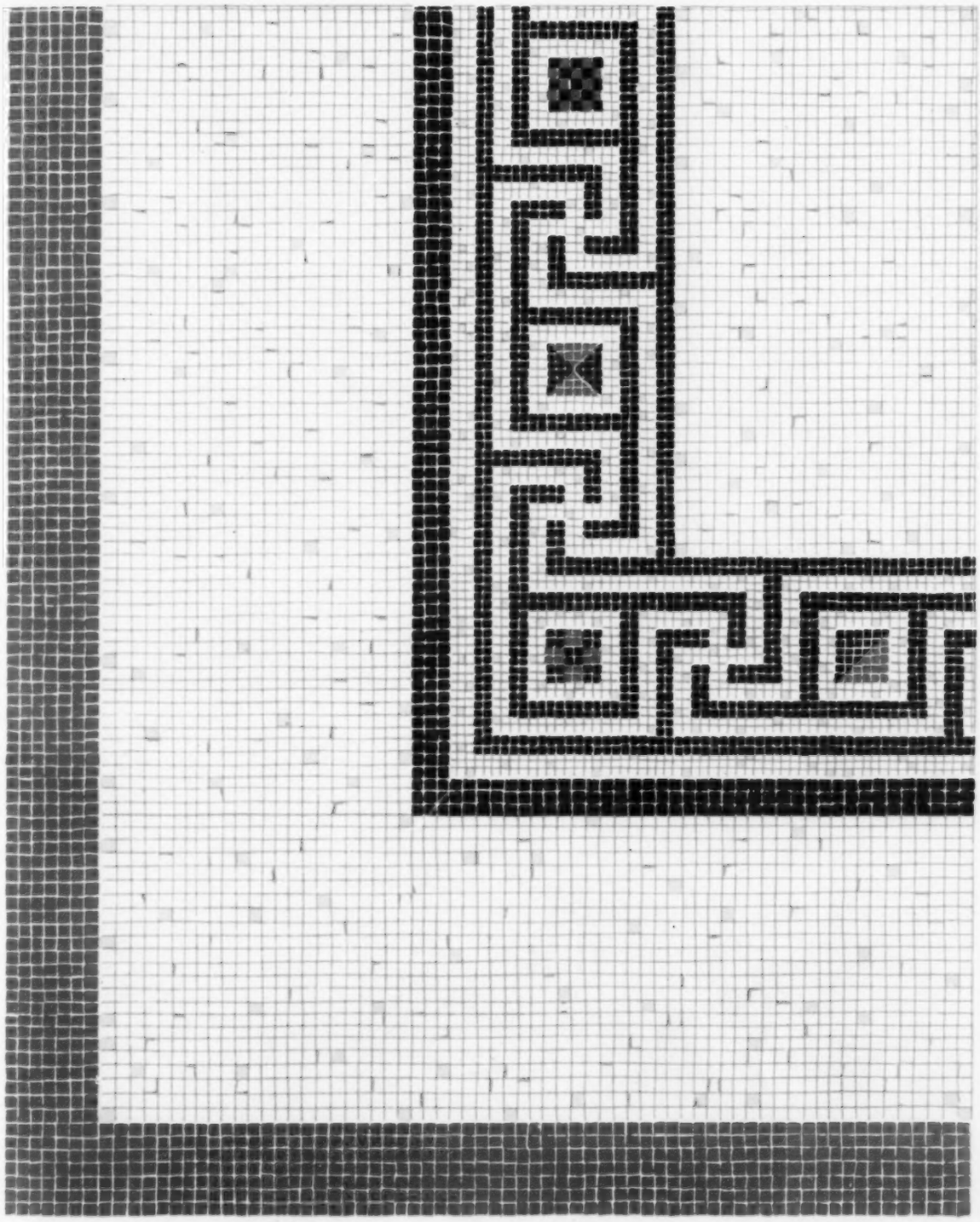
Owners of office buildings in our large cities now realize that the provision of garage parking space attached to or within the building for the use of tenants and their clients is an important inducement in renting. (Provision of such parking space may not be essential if the office building is close to an efficient public parking garage but as these are often overloaded, it is probably the better policy to provide garage parking space in connection with all buildings.) This garage space may be provided partly under ground and partly in the rear, or the entire central dark portion of the building may be utilized for parking purposes.

Entrance and exit from these parking garages should be placed as far as possible from street intersections in order that cars waiting for the traffic signal will not block cars coming from the garage.

The foregoing observations represent the general trend which appears to be a sound one. Though a long way from being generally adopted, these tendencies provide a fairly satisfactory answer to the question of where garages should be located in city planning schemes.

A CORRECTION

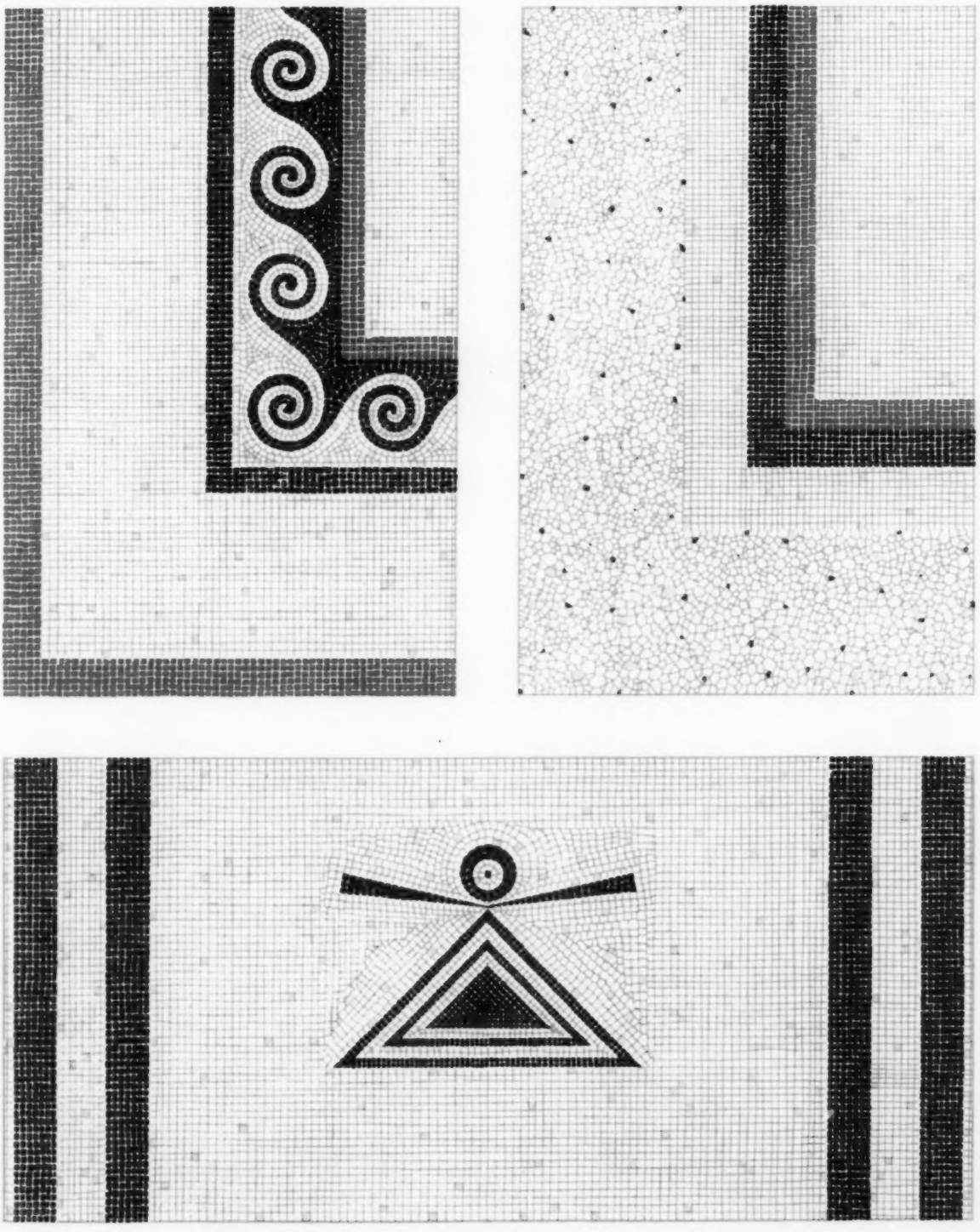
In the January issue of The Record, page 80, we called attention to the use of burlap to obtain a rough concrete surface suitable for the application of tile. We omitted mention that this chemically treated burlap is Contex fabric, a product of the Loc-Crete Company, 51 East Forty-Second Street, New York City.



MOSAIC FLOOR IN DELOS ISLAND_GREECE
CORNER DETAIL_ SCALE 1/5

ARCHITECTURAL RECORD SERIES.
POLYCHROME FLOORS
ANDRÉ LECONTE, MEB ET DEL.

UNIV OF MICH.



MOSAIC FLOOR IN DELOS ISLAND_GREECE
SCALE 1/10

ARCHITECTURAL RECORD SERIES.
POLYCHROME FLOORS
ANDRÉ LECONTE, MES ET DEL.

NOTES AND COMMENTS

CALIFORNIA ARCHITECTS LOOK AHEAD

THE STATE ASSOCIATION OF CALIFORNIA ARCHITECTS held its first convention in San Francisco early last fall. I don't know how many states enjoy similar societies, nor to what extent those that do, may have organized them on similar lines. At any rate, there are possibilities here which deserve a passing word.

In one respect the new Association achieves the rare distinction of absolute unanimity. It embraces every one of the twelve hundred odd registered architects in the State of California! The constitution adopted provides that a person is a member by virtue of his certificate to practise architecture granted by the State Board of Architecture, unless he tenders a written resignation. As anyone too indifferent to participate is unlikely to take the trouble to write a resignation, it is safe to assume that all architects in the state are members, willy nilly. There may be a question as to what will be the effect of carrying the certain amount of dead matter that is sure to accrue. In view of the plan of organization, this does not promise to become a serious charge on the Association. Besides, it must be remembered that even a socially dead architect is subject to resuscitation under proper incantation. If chances were to be taken, the organizers judged the presence of a few useless members a safer risk than the exclusion of one possibly valuable one.

It will thus be seen that the new Association, by its all-inclusive membership, is not competing with the two California chapters of the American Institute of Architects. It is working hand in glove with the latter body, as well as with the official State Board of Architecture, to both of which it promises to be a valuable adjunct. In fact, the technique, if not the ideals, of big business has been adopted in the principle of interlocking directorates. That is probably as near as architecture can get to exorbitant profits.

But however unanimous the membership, the actual deliberations of the convention proved less so. This is only as it should be. Even running a steam roller must become monotonous with nothing but a vacant highway to run over. As an index of the seriousness of the occasion, the entire state was represented from Alturas to San Diego. This may not mean much to an outsider until it is explained that a space of some seven hundred miles as the crow flies is involved, or perhaps the distance from New York to Charleston, South Carolina.

The first specific task the Association sets itself is amendment to the State law regulating the practice of architecture. Although nobody can style himself "Architect" in California today without a certificate granted on official examination, at the present time the intention of the law is freely circumvented by such facile subterfuges as "Tom Jones, Architecture and Building," "Dick Smith, Architectural Designer," or "Harry Brown, Non-certificated Architect." Defects in the law leave the State Board of Architecture unequipped to prosecute these evasions, and render conviction uncertain when a case is pressed. What good, we ask, is a law without teeth? The new California law regulating the practice of architecture promises to be one of the best in the country when this job of legal dentistry shall have been accomplished.

The subject of public education came up in the convention. Personally I look forward to the Association's embarking upon a comprehensive campaign, to which its organization by central committees and completely distributed network of regional advisers eminently fits it. The public is a tremendous thing to educate, and the amount of education it needs is appalling. Yet, in the last analysis, architects as a body are at its mercy. Painters can pile pictures behind the piano, and poets and musicians can fill the bureau drawers with manuscripts, but architects can build nothing but what clients will pay to put up. And clients, of course, are no more than special cases of the public—and not always the high points, either. The longer missionary work is deferred, the longer public salvation is postponed. Mr. Myron Hunt made the statesmanlike suggestion of catching them young and off their guard, by sponsoring lectures and even courses to be introduced into the high schools of the state.

Mr. H. Roy Kelley read a spirited paper deploring the devastation of the speculative builders. Mr. William I. Garren supplemented Mr. Kelley's eloquent indignation with a few cool and arresting figures compiled from the records of the San Francisco Building Department. Skipping many interesting and significant details for the bare core, it seems that, during the last year, some twenty-five per cent. (in dollars) of the building done in San Francisco was designed and supervised by architects. The figures for Los Angeles prove to be no better, and there is every reason to believe that those for the many smaller communities would turn out considerably worse. And yet, I reflect, California is producing an architecture which is attracting nation-wide recognition for quality and character. If this can be done hitting on only one cylinder, as it were, it is interesting to speculate on what may be accomplished after the State Association of California Architects has had a chance to exercise a reasonable influence in boosting public

appreciation and checking incompetent practice.

IRVING F. MORROW

CORRECTION

It is regretted that an error occurred in the caption which appears on Page 525 of the December issue of The Record. Credit for the bronze sundial at Cranbrook School, Bloomfield Hills, Michigan, should have been given to Paul Manship, sculptor, and not to Geza Maroti as stated under the illustration.

COLOR IN EARLY AMERICAN ARCHITECTURE

THE ARTICLE on color in early American building that appeared in the last October issue of The Record inspired several letters from architects experienced in the remodelling of colonial houses. Mr. Horace Wells Sellers, architect of Philadelphia, contributed the following important data:

. . . "I have found in our Pennsylvania farmhouses and also in buildings in the city erected during the 18th and early decades of the 19th century, the use of both light gray and often of a light shade of brown or tan on the woodwork, especially in the interior.

"In the farm-houses and minor rooms of more pretentious dwellings I have reason to believe that whitewash or bare plaster was often used in various shades, some which might be designated as terra cotta, or what I believe corresponded to the term 'Venetian red' sometimes described in early specifications. With such stronger colors I recall the black border baseboard height on the walls or at least the skirtings where they existed, painted black.

"In regard to wall painting, I have detected the use of pigment in delicate pastel light shades of various colors and in fine woodwork of the early 19th century, panelling and stiles and rails of wainscoting, finished in very simple shades of pearl and rose. In fact until the latter decades of the 18th century I question if in this neighborhood untinted white paint was used to any great extent although the colors employed were warmer and lighter than I have noted in modern attempts to restore such original conditions.

"I have noted, for example, mantels carrying ornament in low relief which needed the application of white paint or extremely light tints of color to maintain the effect of light and shade that the bas reliefs call for and which in the hands of the modern restorer is quite lost under the application of different shades of blue, green or gray.

"There is a tradition here that in the early city dwellings where wainscoted walls were used at a period when competent plasterers were difficult to secure, the cedar or pine commonly used was left unfinished exactly as I noted recently in old houses in England that I had occasion to visit.

"I remember some years ago in restoring an old house in New England where walls had layers of paper applied showing the progress of the art from 1800 to the present century that under it all was disclosed an attempt to imitate wall paper by color applied to the plaster. . . ."

ARCHITECTURAL LEAGUE EXHIBITION

THE ANNUAL EXHIBITION of The Architectural League to be held at the Grand Central Palace, New York City, April 15-27, occurs at a time that will be convenient to those architects who attend the Convention of The American Institute of Architects at Washington, D. C., April 23-25 and who may include New York in their itinerary. It is not generally known that the exhibits will not be confined to architects and craftsmen members of the New York Architectural League. Any architect may submit photographs and drawings to the Jury of Selection for acceptance or rejection. There is an entrance fee required of $5.00 from each exhibitor.

The inclusion of a special group of paintings by contemporary American artists as a part of the Architectural and Allied Arts Exposition has been arranged by the Arts Council of the City of New York. This exhibition is considered as a step in the Arts Council's plans for the establishment in New York of a Museum of Contemporary Art. The hundred artists to be represented will be chosen from lists of names to be sent to the Council by artists, art collectors, art executives, art instructors and art writers. If the reader of this announcement belongs to any of these groups he is requested to send a list of names of those living American painters whom he considers important.

REGIONAL CONFERENCES OF THE AMERICAN INSTITUTE OF ARCHITECTS

THE REGIONAL CONFERENCE of the Middle Atlantic District of the American Institute of Architects was held last November in Carpenters' Hall, Philadelphia. This Hall is a surviving link between the days of medieval craft guilds and our period of professional architectural practice. One of the objects of the Carpenters' Company, says Robert Stead, who reported the Philadelphia conference, was to "obtain instruction in the Science of Architecture." Carpenters' Hall possesses an unusual library including besides many rare architectural works of the eighteenth century, a collection of Carpenters' Price Books which list and illustrate details of public and private buildings. This material may well serve as an authentic guide in the reconstruction of eighteenth century architecture.

The Regional District meeting of the American Institute of Architects for the Western Mountain States was held at Seattle, Washington, in January.

THE ARCHITECT'S LIBRARY

BOOK REVIEWS

MODERN FRENCH ARCHITECTURE

ROBERTSON, HOWARD, AND YERBURY, F. R., Eds.

Examples of Modern French Architecture. 100 pl. Scribner's. $10.00.

THE VOLUMES and articles on modern architecture now and again appearing in the several countries, Sweden, Holland, Germany, France, etc., are a little inclined to see national initiative and peculiarities too exclusively. In turning from volume to volume, one frequently finds the same characteristic successively called Swedish, Dutch, German, French, or American. Differences there are of course, but the main phenomenon before us is becoming common to all these countries, and the main element in it is a radical change in appearance growing out of a radical change in structure, which in turn had grown out of a new kind of building material, namely, structural steel and reinforced concrete.

EXHIBITION SHOP FRONT
SÉZILLE, ARCHITECT
From *Examples of Modern French Architecture*

Among national differences the modern American seems to be structurally the most daring and decoratively rather conservative, and French *architecture moderne* to run true to the national temperament in attempting to "follow through" with its logic. Why hide steel frame and reinforced concrete, it asks, by camouflage? What have these modern buildings to do with the ancient Orders? "*Architecture moderne*," says the writer of a recent article, "has straight lines; it is angular, geometric, and tends to follow cubic proportions. On the exterior an interest in the structure is created by a balance of mass, rather than a variety of intricate ornamentation that *per se* means nothing—In most cases there has been an honest attempt to follow out the lines of construction rather than the old style of masking everything behind a false front—With the elimination of the Orders went the elaborately carved doorways and windows, and, what was of greatest import, the cornice as the crowning motif of the building."

It seems that frontal pilasters on a steel frame building do look rather silly; that the outside surface and appearance of such buildings will eventually show the influence of the substance behind them more completely than they have yet; hence that the appearances of the *architecture moderne* may be more or less prophetic for us. The new materials have a tensile strength that stone has not; hence it is prophesied that a lintel age is upon us and the arch will disappear.

The first group of the Robertson and Yerbury plates presents the Lyons Stadium, which suggests the Yale Bowl but is far more architectural and apparently smaller. The Bowl is simplicity itself but the Lyons Stadium is a composition. Le Raincy Church (Pl. 28-30) has been frequently photographed, and comments upon it have often been to the effect that it is too restless for a church. But it may be that peace has something to do with custom. Possibly a Gothic church would look restless to a Greek, and perhaps in some sense it is. Aspiration is a form of restlessness, but one has not thought it inappropriate to a place of worship. Le Raincy Church may be restless without aspiration, but at any rate it is a definite something.

Some of the features of the new architecture in America do not appear in any of these French plates. In many tall buildings American architects seem tending to substitute flat vertical lines of different color, instead of pseudo-structural members such as buttresses and pilasters, with the vertical recesses between them to carry the eye upward; and this seems to open the way to polychrome fronts. The French plates of commercial buildings and dwellings show no tall structures. These undecorated surfaces

and rectangular lines run naturally to an extreme austerity. Architects to whom extreme austerity is not attractive endeavor to escape from it in various unexpected ways, which sometimes perhaps are in effect more eccentric than harmonious. Many of the house interiors seem unhouse-like (see pl. 45). But one can see everywhere an intention to argue logically from the facts of structure, and discard any tradition which the argument does not lead to or include.

This collection of plates does not claim to trace the development of modern French architecture, or to represent it. It is a volume of photographic impressions, and it succeeds in conveying an impression. Some peculiarities look like passing fashions, but the general impression is more like the beginning of a style. Some of the work presented is restrained and evolutionary, some of it frankly radical and revolutionary. Architecture is slower than other forms of art to reflect the tendencies of an epoch. Messrs. Robertson and Yerbury find the signs of change reflected not so much in the great public buildings, as in shops, homes, hotels, cafés; for these have no self conscious eye to posterity; they are buildings for today. Large and important work in the modern manner hardly exists as yet in France, except on the drawing board. The bulk of the illustrations are therefore from shop fronts and private houses, and these are by far the most radical and experimental.

ARTHUR W. COLTON

ART STUDIES

ART STUDIES

Medieval Renaissance and Modern. 1927.Cambridge. Harvard University Press. (Fifth Year).

THE ANNUAL publication of *Art Studies* by members of the departments of Fine Arts of Harvard and Princeton, is, outside the classical field, the most important American contribution to the scholarship of art. With its distinguished international advisory council and such foreign contributors as Monneret de Villard, Diehl and Oursel, combined with American scholars of established position and younger men and women at the opening of their careers, it offers every year a rich and usually well balanced variety of contents illustrated with excellent plates.

Important as are the iconographical articles and those on painting and sculpture, the present review can only touch on those dealing with architecture. Oursel's article on "La Genèse Monumentale de l'Eglise Abbatiale de Vézelay" gives a full account of the relation between ecclesiastical politics and architecture in Burgundy at the end of the eleventh and beginning of the twelfth century and an admirable explanation of the disparity in style between Vézelay and the great church at Cluny. Monneret de Villard's briefer article insists upon the coherence in style of the art produced about the Mediterranean during the first millennium of our era regardless of the religion temporarily in control. Although he does not say so, Monneret de Villard's *Arte Sàsânide* is the same as Spengler's *Magian Art* and the suggestions he offers for advancing our knowledge of that culture stress how central in point of history it was and how in our Rome-blindness it has been misunderstood and neglected despite all the efforts of Strzygowski and those who have worked with him.

Mr. Anthony's article on the Florentine Baptistry has already appeared in expanded form as a book. Mr. Whitehill's article is more far reaching than the actual point at issue since it suggests that liturgy is an influence on architecture of wide and infrequently grasped importance.

For those who are interested in modern architecture there can be nothing more healthy than the reading of archaeology and the history of art. These few articles, all within the medieval field, suggest much that is inherently and permanently true of great architecture and also the very strict and necessary relation between architecture and the civilization in which it exists—a connection which the men of the nineteenth century tried to forget, yet which, ironically enough, is very evident in their architecture. Let us hope that with sounder knowledge of the past our own day may be readier to accept and profit by the influences which inevitably react on architecture and that we may be freer to evolve a style in which we may face the past, not as an enfeebled image in some distorting mirror, but clearly and honestly as we are.

HENRY-RUSSELL HITCHCOCK, Jr.

FURNITURE ARTS AND CRAFTS

JOHNSON, A. P., AND M. K. SIRONEN, Compilers.

Manual of the Furniture Arts and Crafts. Edited by William J. Etten, Grand Rapids, Mich. A. P. Johnson Company, 1928. $5.50

THIS VOLUME is a compendium of facts about furniture. It includes a short historical sketch, a description of furniture woods, veneers, machinery and upholstery. There are also chapters devoted to the furniture housed in various museums of the United States and biographical sketches of furniture craftsmen.

GOTHIC ORNAMENTS

PUGIN, AUGUSTUS CHARLES.

Gothic Ornaments. C. W. Kuehny, Cleveland, Ohio. $7.50

EXAMPLES of Gothic ornament from various ancient buildings in England and France, covering every description of decorative detail from the eleventh to the beginning of the sixteenth century, are included. The first edition of this work, without letterpress, was published in 1831.

LIST OF NEW BOOKS ON ARCHITECTURE AND THE ALLIED ARTS

COMPILED BY

PAULINE V. FULLERTON

LIBRARIAN IN CHARGE OF THE DIVISION OF ART AND ARCHITECTURE, THE NEW YORK PUBLIC LIBRARY

ARCHITECTURE

BAUM, JULIUS.

Romanesque architecture in France; edited and with an introduction by Julius Baum. New York: B. Westermann Co. Inc., 1928. xxxii, 220 p. illus. (incl. plans.) 4°. $12.50. 723.44

Bibliographical footnotes.
The first German edition was published in 1910. This is a translation of the second, enlarged to 280 plates.
"The object of the introductory text of this book is merely to show how French culture of the middle ages is mirrored in the works of art of the country." Preface.

CASTLE, SYDNEY ERNEST.

Domestic Gothic of the Tudor Period. Jamestown, N. Y., International Casement Company, Inc., 1927. 6, 86 p. front., illus., 54 plates. 4°. $5.00. 728

Informal, personal impression of English architecture of this period, illustrated by photographs and by the author's renderings in pen and ink.

GOTCH, JOHN ALFRED.

The growth of the English house, from early feudal times to the close of the eighteenth century. London: B. T. Batsford, Ltd., 1928. x, 214 p. front., illus., plates. 2 ed. rev. and enl. 8°. 12s. 6d. 728

American edition published by Scribner at $4.50.
The first edition was published in 1909.
"Advantage has been taken of the demand for a new edition of this book to make such slight variations of the text as became requisite, owing to researches undertaken since it was first published, and owing also to a revision of illustrations to picture more fully periods that formerly were sparsely represented." Preface.

HALSTEAD, FRANK.

Architectural details. New York: J. Wiley & Sons, Inc.; London: Chapman & Hall, Limited, 1927. vii, 284 p. incl. 114 pl. 4°. Amer. ed. $3.50; Eng. ed. 17s. 6d. 729

"This volume together with the one on 'The orders of architecture' and the 'Architects' and builders' reference book,' is planned to meet the demand for a treatise on architectural drawing." Preface.

MESSENT, CLAUDE J. W.

The old cottages and farm-houses of Norfolk; with pen and ink illustrations by the author. Norwich: H. W. Hunt, 1928. 248 p. incl. plates. front., illus. 4°. 10s. 728.6

This study of a local architecture includes chapters on dovecotes and Georgian shop fronts.

SOCIETY OF BEAUX-ARTS ARCHITECTS, New York.

Winning designs, 1904–1927, Paris prize in architecture, Lloyd Warren memorial, with an introduction by John F. Harbeson. New York: The Pencil Points Press, Inc., 1928. 2 p., 35 pl. (part fold., incl. plans) f°. $6.00. 720.7

The plates show designs of the twenty prize winners from 1904 to 1914 and from 1919 to 1927. The conditions of each scheme are printed with the plates.

SOUPRE, J. & J., firm, architects, Paris.

Maisons du Pays Basque, Labourd-Basse, Navarre-Soule; texte de E. Lambert. Paris: A. Sinjon, cop. 1928. 7 l. diagr., illus. (plan), 56 pl. f°. 100 fr. 720.944

Well chosen types of the French Basque house and a few Basque churches. There are short critical notes on the plates and an introduction which describes typical features of this regional architecture.

TEUPSER, WERNER.

Rothenburg, Dinkelsbühl, Nördlingen. Leipzig: E. A. Seemann, 1928. 236 p. illus., plans. 12°. (Beruehmte Kunststätten. Bd. 80.) 8 marks. 720.9433

This volume of a useful German series covers the architecture of these three Bavarian cities, and has 121 illustrations from plans, drawings and photographs.

VACQUIER, J.

Les anciens châteaux de France. La Touraine; Azay-le-Rideau; Champigny-sur-Veude; Loches; Montpoupon. Notices historiques et descriptives. Paris: F. Contet, 1928. 4, 4, 4 p. illus. (incl. plans.) 39 pl. (2 col'd). f°. 160 fr. 728.82

A new contribution to this familiar French series.

VALADY, MARIE JOSEPH LOUIS D'YZARN DE FREISSINET, MARQUIS DE.

Les châteaux de l'ancien Rouergue; avec des eaux-fortes du comte R. de Levezou de Vezins. Rodez: P. Carrère, 1927. viii, 608 p. 22 pl. f°. 210 fr. 728.82

283 copies only, printed.
Bibliographical footnotes.
A closely documented history of the châteaux of the three cantons of Sévérac-le-Château, Laissac, Campagnac.

VIRETTE, JEAN.

Sculptures et détails d'architecture moderne. Deuxième série. Paris: A. Sinjon, 1928. 2 l., 48 pl. f°. 110 fr. 729

The 48 plates show the work of twenty architects, and illustrate ironwork, sculptured relief, window, stair and doorway detail.

ALLIED ARTS

CAPART, JEAN.

Lectures on Egyptian art. Chapel Hill: The University of North Carolina Press, 1928. xxxii, 290 p. illus. (incl. plans, ports.) 4°. $5.00 709.32

This volume prints the text of the lectures delivered by Monsieur Capart on his tour in the United States during the season of 1924-1925. A popular but illuminating commentary by an authority on the subject.

FRENCH, J. C.

The art of the Pal empire of Bengal. Oxford: University Press; London: Humphrey Milford, 1928. xv, 26 p. 32 plates. 8°. $6.50. 709.54

Discusses sculpture and architecture of this period in India which is contemporary with the early Middle Ages in Europe, from the 8th to the 11th centuries.

GARBER, JOSEF.

Die romanischen Wandgemälde Tirols. Wien: Krystall-Verlag, 1928. 127 p. illus. (incl. plans), 91 pl. f°. 35 marks. 729.4

Through the medium of textual description and some 91 plates, this volume forms a record of Tyrolese mural paintings of the Romanesque period, covering the years 800 to 1300.

GAUTHIEZ, PIERRE.

Paris; aquarelles de Paul-Émile Lecomte. Grenoble: J. Rey, 1928. 3 v. illus., col'd plates. f°. 120 fr. 720.944

An architectural pilgrimage in Paris, fully illustrated from photographs and water colors.

GODARD, A., AND OTHERS.

Les antiquitées bouddhiques de Bamiyan, par A. Godard, Y. Godard, J. Hackin. Avec des notes additionelles de M. Paul Pelliot. Paris: G. van Oest, 1928. 113 p. 48 pl. (part col'd.). f°. (Délégation archéologique française en Afghanistan. Mémoires. Tome 2.) 250 fr. 709.5

Bibliography, p. 105-108.
Not only the report of a preliminary survey made by an expert commission, but a review of all earlier visits to the valley of Bamian, and a reprint of texts dealing with previous expeditions.

GOTHEIN, MARIE LUISE (SCHROETER).

A history of garden art, edited by Walter P. Wright; translated from the German by Mrs. Archer-Hind. London: J. M. Dent & Sons Ltd., 1928. 2 v. fronts., illus., plans. 4°. 84s. 710

Amer. ed. pub. by Dutton at $27.00.
Bibliography, v. 2. p. 459-460.
An important history of landscape gardening, translated from the second German edition.

GUILLOT, LUCIEN.

Le cheval dans l'art; préface de J. Froment-Meurice. Paris: Le Goupy, 1927. 220 p. incl. front., plates. illus. 8°. 80 fr. 704

Bibliography, p. 209-212.
Discusses and illustrates the representation of the horse in painting and sculpture from pre-historic down to contemporary art.

HANOTAUX, GABRIEL.

La Provence niçoise. Paris: Hachette, 1928. ix, 159 p. diagr., facsims., illus. (incl. plans), plates. f°. (La Renaissance provençale.) 100 fr. 709.449

HAUTECOEUR, LOUIS.

Le romantisme et l'art. Paris: H. Laurence, 1928. iv, 319 p. facsim., plates. 8°. 40 fr. 709.44

Contents: Herriot, E. Introduction.
Hautecoeur, L. Les origines du romantisme.
Aubert, M. Le romantisme et le moyen âge.
Vitry, P. La sculpture romantique.
Rey, R. Gros-Géricault.
Jamot, P. Delacroix.
Joubin, A. Les manuscrits d'Eugène Delacroix.
Focillon, H. Chassériau, ou les deux romantismes.
Schneider, R. Le paysage romantique.
Rouchès, G. Les peintres romantiques et la peinture étrangère.
Rosenthal, L. La gravure romantique.
Lanson, R. L'orient romantique.
Boschot, A. Berlioz et le romantisme.
Girard, H. Le livre, l'illustration et la reliure à l'époque romantique.
A series of lectures commemorating the centenary of the romantic movement in France.

HURLIMANN, MARTIN.

India, the landscape, the monuments and the people. New York: B. Westermann Co., Inc., 1928. xxxiii, 304 p. incl. plates. map. f°. (Orbis terrarum.) $7.50. 720.954

Like others of the series, a collection of admirable plates from photographs illustrating Indian architecture, scenery and racial types. The text is descriptive and interpretative.

JOINT EXPEDITION OF THE BRITISH MUSEUM AND OF THE MUSEUM OF THE UNIVERSITY OF PENNSYLVANIA TO MESOPOTAMIA.

Ur excavations. Vol. 1. London: Oxford University Press, 1927. front., illus., plates, tables. f°. 63s. 709.3

Contents: Al-'Ubaid; a report on the work carried out in 1919 and 1922-3 by H. R. Hall and C. L. Woolley at Al-'Ubaid.
Describes the temple and cemetery at Al-'Ubaid and includes a detailed account of the objects found during the various excavations. Excellent photogravure plates.

LUETHI, MAX.

Buergerliche Innendekoration des Spätbarock und Rokoko in der deutschen Schweiz. Zürich: O. Füssli, 1927. 92 p. diagr., 48 pl. on 24 l. 4°. 16 fr. (Swiss).

Bibliography, p. 80-89. 747
Describes and illustrates interiors, wall decoration and furniture of the 18th century, from examples in published volumes, in historical museums, in the author's possession and in other private collections.

MARQUAND, ALLAN.

The brothers of Giovanni Della Robbia: Fra Mattia, Luca, Girolamo, Fra Ambrogio. With an appendix and corrections for all the Della Robbia catalogues. Edited and extended by Frank Jewett Mather, Jr., and Charles Rufus Morey from the manuscript of the late Professor Marquand.

Princeton: Princeton University Press, 1928. vi, 221 p. illus. 4°. (Princeton monographs in art and archaeology, XIII.) $10.00. 735

"This book represents the first comprehensive attempt to disentangle the works and personalities of the last Della Robbia sculptors from the mass of pieces hitherto vaguely ascribed to the school. Thus on the scholarly side, the late Professor Marquand's final volume may be regarded as his most personal and original contribution to the entire subject." Preface.

MARTINIE, A. H.

La sculpture; 24 planches hors texte. Paris: Les Editions Rieder, 1928. 132 p. 24 plates. 12°. (L'art français depuis vingt ans.) 15 fr. 735

A review of the academic, eclectic and independent schools of French sculpture since 1900.

Paris. Exposition internationale des arts décoratifs et industriels modernes, 1925. Rapport général. Paris: Larousse, 1927–28. vol. 4, 5, and 9, plates (part col'd). 4°. 80 fr. per vol. 740

Contents: vol. 4, Mobilier.
vol. 5, Accessoires du mobilier.
vol. 9, Parure.

Includes bibliographies.

The set is to be completed in eighteen volumes, the subjects including architecture, furniture, textiles, books, toys, costume, theatre arts, and municipal art. Five volumes are to be devoted to a discussion of the finance and administration of the Exposition. Each volume has text and approximately one hundred plates.

TROESCHER, GEORG.

Conrat Meit von Worms, ein rheinischer Bildhauer der Renaissance. Freiburg i. Brg., Urban-Verlag, 1927. 71 p. mounted illus., 54 pl. f°. 60 marks.

Bibliographical notes, p. 37-72. 735

A critical study of this early Renaissance sculptor whose most important works are certain tombs in the church at Brou. Exceedingly clear and detailed plates.

TYRRELL-GREEN, EDMUND.

Baptismal fonts, classified and illustrated. London: Soc. for Promoting Christian Knowledge, 1928. xvi, 183 p. illus., plates. 8°. (Historic monuments of England.) 10s. 6d. 729.9

Bibliography, p. v-vi.

A very large number of fonts in Great Britain are classified according to type, design, period ornamentation and material. The index of fonts is arranged alphabetically by county and town, and there is a second index of names and subjects.

WILLIAMS-ELLIS, CLOUGH.

England and the octopus; with an epilogue by Patrick Abercrombie. London: G. Bles, 1928. ix, 188 p. incl. front., plates. 12°. 5s. 720.41

An English architect speaks with emphasis upon what he considers the forces destructive to good English architecture, wise town planning, and the beauty of the English countryside.

FOREIGN PERIODICALS

Reviewed by Henry-Russell Hitchcock, Jr.

ARCHITECTURAL MAGAZINES PUBLISHED IN ENGLAND

ARCHITECT AND BUILDING NEWS. October 19, 1928. Weekly.

The Architect and Building News is an excellent English magazine of architecture. At the same time, it carries so much foreign material that it gives the American reader less of a view of English architecture than certain others. The current number has a report on the International Exhibition of Garden Design at the Hall of the Royal Horticultural Society at which the house and garden by Easton and Robertson, mentioned elsewhere in reviewing the Builder, was exhibited. The foreign article this month is devoted to houses by André Lurçat in the Cité Seurat and includes some new examples as well as many plans. If one may at all criticize the excellent "foreign policy" of *The Architect and Building News* it is that they illustrate perhaps too much French and Dutch work and too little German and Swiss. Also they seem unable to find in England many good buildings of comparable modernity.

SOUTH WIMBLEDON STATION, LONDON
S. A. HEAPS AND MESSRS. ADAMS, HOLDEN & PEARSON, CONSULTING ARCHITECTS
From *Academy Architecture and Architectural Review* Volume 60, 1928 (A bi-annual)

THE BUILDER. A Journal for the Architect and Constructor. October 19, 1928. Weekly.

The Builder is an inexpensive review with excellent brief notes and comment on matters of interest to English architects and constructors. Its illustrations are small and usually of material better seen elsewhere, as, for example, in the pres-

ent instance, the Royal Horticultural Hall. There is a very small illustration of a modern house and garden also by Easton and Robertson, an article on department store planning, in which English and American examples are compared, and some schools, libraries and bridges of no very great interest. Except for its broad scope there is little to recommend this review to Americans.

BUILDING. October, 1928. Monthly.

Building describes itself as a practical monthly journal for not only architects but also for quantity surveyors, builders, structural engineers, heating, lighting and ventilating engineers, sanitary engineers, decorators, manufacturers and merchants of building material and estate managers. Although its editorials and notes are somewhat more journalistic in tone than those of the professional architects' magazines and its publication of single buildings less complete, it gives a more varied picture of English contemporary production. There are also brief articles of general interest by foreign architects relative to their theories of design; the current number, for example, contains "The way we are going" by Ragnar Ostberg, the well-known Swedish architect of the Stockholm City Hall. A series of articles on Modern Continental architecture provides in the current number a well-illustrated discussion of Switzerland. The work mentioned conforms generally to the current English standards of good craftsmanship and either simplified traditional design or eclectic modernism. The frequent technical articles are of more interest to those other than architects for whom the magazine is produced.

GABLE TO THE WINE CELLAR AT KROM REVIER, STELLENBOSCH

From *The Architectural Review*, October, 1928

THE ARCHITECTS' JOURNAL. October 24, 1928. Weekly.

The Architects' Journal is a sober professional weekly with excellent half tone plates and measured drawings. Its editorials and news and topics are informative as to English conditions and events of local professional interest. Its articles are well written and the publication of single buildings is very complete, both as to photographs and drawings. Plates of old buildings are well chosen and provide excellent precedent for modern traditional design. The modern buildings illustrated reflect Scandinavian rather than French and German movements.

THE ARCHITECTURAL REVIEW. A Magazine of Architecture and Decoration. October, 1928. Monthly.

The Review is a sumptuous and expensive monthly with excellent illustrations and text. But it is not particularly concerned with the actualities of architecture. Its book reviews and travel articles are its strongest features. In the present number, for instance, is an article on South African wine cellars with magnificent photographs, and a Spanish travel diary with very vigorous pen illustrations. *The Review* contains also a History of the English House treated as a series by Nathaniel Lloyd.

Included, too, is a full account of the new Hudson Bay Building by Mewes and Davis in Louis XIV style and, for contrast, some interesting modern block printed textiles by the well-known painter Paul Nash. The book reviews are well chosen and well done. In conclusion, *The Review* may be said to be the most impressive and the least usual to American architects of all the British architectural periodicals.

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NOTES IN BRIEF

A. W. OWN TRAVELLING SCHOLARSHIP COMPETITION, 1929

Announcement is made of the second annual competition for the selection of a beneficiary for the A. W. Brown Travelling Scholarship, this competition to be held under the direction of a committee of the American Institute of Architects. Programmes will be mailed to approved applicants about March 1st, 1929, drawings to be delivered on April 1st, 1929.

This scholarship is the gift of Ludowici-Celadon Company and is a memorial to the late A. W. Brown, who was for many years president of that company and a leader in the manufacture of roofing tile.

The value of the scholarship is Two Thousand Dollars, to be used towards defraying the expenses of a year of travel and study in Europe by a worthy and deserving architect or architectural draftsman. Travelling expenses between the winner's place of residence and the port of New York will be paid in addition to this amount.

An award of Two Hundred and Fifty Dollars will be made to the person whose design is placed second in the competition; One Hundred and Fifty Dollars to the person whose design is placed third; and One Hundred Dollars to the person whose design is placed fourth.

Under the terms of the gift the selection of the beneficiary of this scholarship is to be made by means of a competition to be held under the direction of a committee of the American Institute of Architects, the drawings to be judged by a jury of from three to five practising architects chosen by that committee. The general requirements of the problem given for the competition will be similar to those of the Class A problems issued by the Beaux-Arts Institute of Design.

It is also stipulated by the donors that the competition shall be open to any architect or architectural draftsman who is a citizen and resident of the United States; who has never been the beneficiary of any other European scholarship; who has passed his twenty-second but has not passed his thirty-second birthday on May 1st, 1929; and who has been in active practice or employed in the offices of practising architects for at least six years, or, if a graduate of an architectural school, at least two years since graduation.

The beneficiary will be required to complete, during his European study, at least two envois, which shall consist of measured drawings of buildings on which burnt clay has been used for roofing. Other than this there will be no restrictions as to the type of architecture that shall be studied or the type of work that shall be done, except as the committee may deem it necessary to advise from time to time in order that the intention of the establishment of the scholarship may be achieved.

Those wishing to compete should write for application blanks to the secretary of the committee, Wm. Dewey Foster, 25 West 45th Street, New York City.

CALENDAR OF EVENTS

Feb. 1-15	Exhibition of work of prize-winners in the last House Beautiful Competition. Dinner in their honor. Architects Building Material Exhibit, Fifth at Figveroa, Los Angeles, Calif.
Feb. 4-9	American Ceramic Exposition. Exhibition Hall, Hotel Stevens, Chicago.
Feb. 11-Mar. 24	American Industrial Arts. 11th Exhibition. Metropolitan Museum, New York City.
Mar. 1-31	Exhibition of the work of Reginald Johnson, Architect. Architects Building Material Exhibit, Los Angeles, Calif.
Apr. 15-27	Architectural and Allied Arts Exposition. (Architectural League of New York) Grand Central Palace, New York.
Apr. 17-May 11	"Own Your Home" Exposition, indoor and outdoor. Chicago.
Apr. 23-25	Producers' Council. Annual Meeting in conjunction with
Apr. 23-25	American Inst. of Architects Annual Meeting. Washington, D.C.
Sept. 3	Exposition of Modern Decorative and Industrial Art. Mandel Brothers, Chicago.
Oct. 29-Nov. 7	World Engineering Congress. Tokio, Japan.
Nov. 7-22	Excursion and inspection tours throughout the Japanese Empire, in connection with the World Engineering Congress.

COMPETITIONS

Feb. 15	All ballots nominating members of the International Jury in the Columbus Memorial Lighthouse Competition must be in Washington, D. C.
Mar. 1	Prix de Rome. Final date for entry in competition. New York City.
Apr. 1	Columbus Memorial Lighthouse Competition. Drawings must be in Madrid, Spain.
Apr. 1	A. W. Brown Travelling Scholarship Competition. Drawings to be delivered. Programmes will be mailed to applicants about March 1st. New York City.

C C C

CITY PLANNING ENABLING ACT

A Standard City Planning Enabling Act booklet has been prepared by the Advisory Committee on City Planning and Zoning of the U. S. Department of Commerce which may be obtained from the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C., for fifteen cents.

In several hundred American cities and regions, planning commissions are working with public officials and private groups in order to obtain more orderly and efficient physical development of their land area. They are concerned partly with rectifying past mistakes, but more with securing such location and development of streets, parks, public utili-

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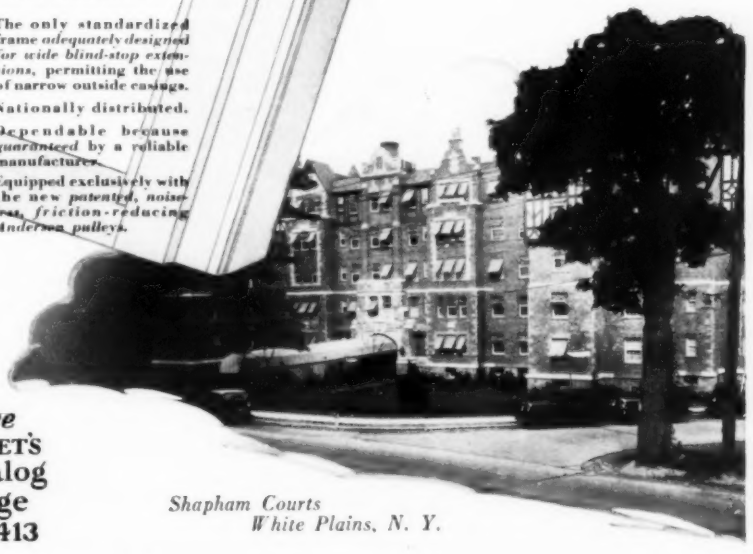
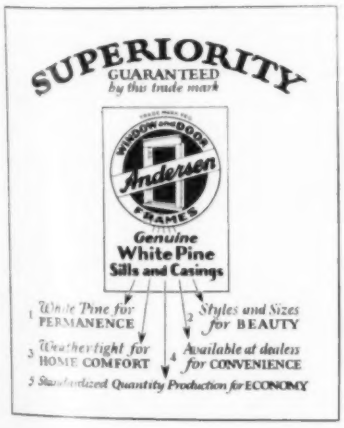


Shapham Courts
White Plains, N. Y.



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ties, and public and private buildings as will best serve the needs of the people for their homes, their industry, trade and recreation.

The booklet gives information on how a standard city planning enabling act based on a careful analysis of wide experience may be drafted.

C C C

ARCHITECTS TO HONOR L'ENFANT

A nation-wide movement to commemorate Major L'Enfant, the Frenchman known as the "Founder of Washington," has been started by the Committee on Plan of Washington and Environs of the American Institute of Architects, of which Horace W. Peaslee is chairman. It is proposed that the memory of Major Pierre L'Enfant and of William Thornton, a contemporary architect of L'Enfant, be honored annually on Memorial Day through national and state architectural societies.

It is also suggested by the Committee that an open parkway from the Capitol to Washington Monument, which will be completed in time for the 200th anniversary of Washington's birth be dedicated in honor of L'Enfant.

MEDALLION OF MAJOR L'ENFANT
From *Journal of the A. I. A.*

C C C

MOVING PICTURE FILMS AND SLIDES FOR ARCHITECTURAL CLUBS AND SCHOOLS

In February, last year, The Architectural Record announced certain films prepared by manufacturers of building materials which were available on loan to Architectural Clubs, Chapters of The Institute and Schools. The Producers' Council in collaboration with the Structural Service Department of the American Institute of Architects and the Association of Collegiate Schools of Architecture have now prepared a catalogue of Moving Picture Films, Slides, etc., illustrating materials and appliances used for construction.

The form of service which these films and slides aim to institute is the result of widespread interest among architects and educational authorities in visual education. It is believed that a better understanding of building materials, their manufacture, character and application to building uses will result from the presentation of salient facts pertaining to materials used in building.

The list of films, slides and lectures is too extensive to repeat completely here. Included in the list are the following:

Installing tilework in swimming pools
Erection of a steel frame house
Manufacture of cork covering
Metal flashings
Brick and its romance
Manufacture of face brick
Lumbering in the Pacific Northwest
Trip through mills fabricating, cutting and carving of limestone. (A film showing setting of limestone in building is in course of preparation.)
Terra cotta
Quarrying and shaping slate
Portland cement stucco and the
Application of textural finishes

There are over fifty subjects in all, mostly films that vary in length of time for showing from fifteen to forty-five minutes.

The school, chapter or club will be expected to pay cost of transportation one way. No charge is made by the Council for the loan of films, slides, etc.

Further information may be obtained on application to The Producers' Council, 19 West 44th Street, New York City.

C C C

CONTRIBUTORS

Arthur I. Meigs, member of the firm of Mellor & Meigs, has been a practising architect of Philadelphia, which is also his native city, since 1906. Mr. Meigs is author of the book "An American Country House," in which he describes the house of Arthur E. Newbold, Jr., Esq., which was designed by his firm.

Ernest Payson Goodrich is a consulting engineer. His wide experience includes the construction of two harbors in the Philippine Islands; preliminary investigation of Valparaiso harbor and other large work in foreign countries; work as chief consulting engineer for the borough of Manhattan and as associate in many city planning, water-way and railroad projects.

C. Howard Walker is an architect of Boston, well known as a lecturer on architecture, having made several lecture tours of American universities for The American Institute of Architects.

Holabird and Root.—John Augur Holabird and John Wellborn Root are both natives of Illinois. Both studied at one time at the École des Beaux-Arts in Paris and they have been in association since 1915, although the firm name was only recently changed from Holabird & Roche to that of Holabird & Root. A short time ago the firm was selected a member of the Architectural Committee for the Chicago World's Fair, 1933.

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